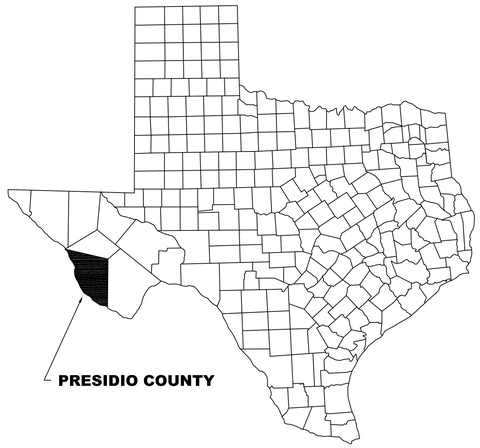
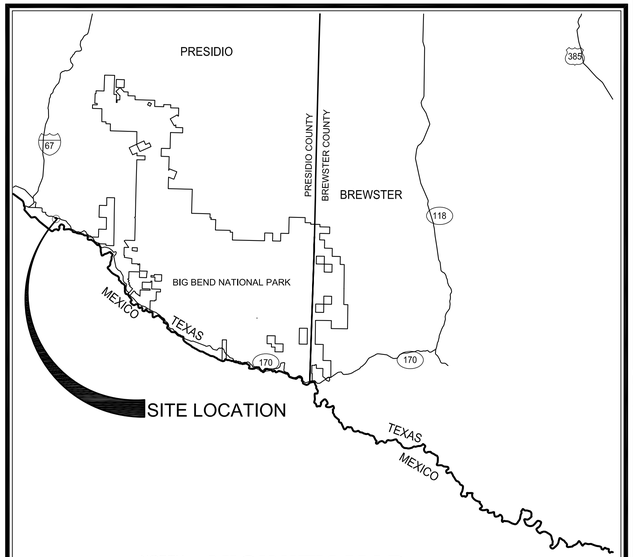


NORTH

COUNTY LOCATION MAP

NOT TO SCALE



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VICINITY MAP

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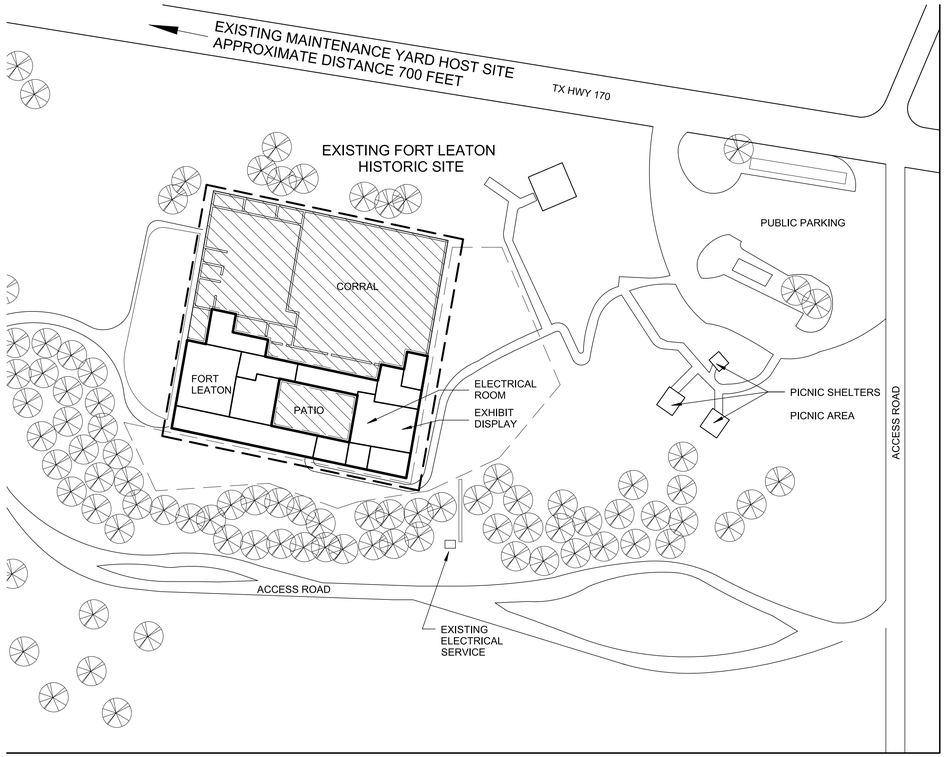

NORTH

SITE LOCATION MAP

NOT TO SCALE

DESIGN TEAM

PROJECT ENGINEER

CARL NIX
TPWD
phone: 512.389.8794
cell: 512.924.6962
Carl.Nix@tpwd.texas.gov

PROJECT

FORT LEATON STATE HISTORIC SITE

ELECTRICAL REPAIRS AND UPDATES

PROJECT NO: MR10415 DATE: 04/29/2021

INDEX OF DRAWINGS

BUILDING CODE SUMMARY

A. INTERNATIONAL CODE COUNCIL ADOPTIONS*
1. BUILDING CODE — INTERNATIONAL BUILDING CODE 2015
2. STRUCTURAL CODE — INTERNATIONAL BUILDING CODE 2015
3. PLUMBING CODE — INTERNATIONAL PLUMBING CODE 2015
4. MECHANICAL CODE — INTERNATIONAL MECHANICAL CODE 2015
5. GAS CODE — INTERNATIONAL FUEL GAS CODE 2015
6. RESIDENTIAL CODE — INTERNATIONAL RESIDENTIAL CODE 2015
7. EXISTING BUILDINGS — INTERNATIONAL EXISTING BUILDINGS CODE 2015

* International Fire Code omitted in lieu of TPWD's implementation of National Fire Protection Association codes. International Energy Conservation Code 2015 omitted in lieu of Energy Standard for Buildings, ASHRAE/IESNA Standard 90.1 (2013).

B. NATIONAL FIRE PROTECTION ASSOCIATION
1. ELECTRIC CODE — NATIONAL ELECTRIC CODE NFPA-70 2020
2. FIRE CODE — NFPA - 1 2015
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C. STATE ENERGY CONSERVATION OFFICE (SECO)/TEXAS COMPTROLLERS OFFICE
1. ENERGY CODES FOR STATE BUILDINGS - Energy Conservation Design Standards: Texas Administrative Code, Title 34, Part 1,Ch.19, Subchapter C
   a. COMPLIANCE WITH THE ENERGY CONSERVATION DESIGN STANDARD OF THE AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS (ASHRAE) /ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA), ENERGY STANDARD FOR BUILDINGS, ASHRAE/IESNA STANDARD 90.1 (2013)
   See SECO website for State Funded Buildings, New Construction and Major Renovation Requirements and SECO Compliance Certification Forms
2. WATER CONSERVATION STANDARDS FOR STATE BUILDINGS - Energy Conservation Design Standards: Texas Administrative Code, Title 34, Part 1,Ch.19, Subchapter C
   a. COMPLIANCE WITH THE WATER CONSERVATION DESIGN STANDARDS FOR STATE BUILDINGS AND INSTITUTIONS OF HIGHER EDUCATION FACILITIES, STATE ENERGY CONSERVATION OFFICE (SECO), 2016
   See SECO website for Texas Water Conservation Design Standards, Requirements and SECO Compliance Certification / Reporting Form

D. ACCESSIBILITY CODES
1. US DEPT. OF JUSTICE, 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN
2. ARCHITECTURAL BARRIERS ACT ACCESSIBILITY GUIDELINES; OUTDOOR DEVELOPED AREAS, NOVEMBER 25, 2013
3. 2012 TEXAS ACCESSIBILITY STANDARDS, ELIMINATION OF ARCHITECTURAL BARRIERS, TEXAS GOVERNMENT CODE, CHAPTER 469

E. PLAYGROUND SAFETY CODE
1. ASTM F1487-17, STANDARD CONSUMER SAFETY PERFORMANCE SPECIFICATIONS FOR PLAYGROUND EQUIPMENT FOR PUBLIC USE
2. ASTM F2223-15, STANDARD GUIDE FOR ASTM STANDARDS ON PLAYGROUND SURFACING

SCOPE OF WORK

PROVIDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND INCIDENTALS, TO UPGRADE THE EXISTING ELECTRICAL SERVICE, DISTRIBUTION PANELS, AND BRANCH CIRCUITS, REPLACE ALL WIRING, AND RELAMP THE EXISTING INTERIOR LIGHTING AND REPLACE THE TECHNOLOGY INFRASTRUCTURE. PROJECT INCLUDES A CONTRACTOR PROVIDED TEMPORARY BUILDING TO RELOCATE SITE STAFF.

TEXAS PARKS & WILDLIFE

TEXAS PARKS AND WILDLIFE

INFRASTRUCTURE DIVISION

4200 SMITH SCHOOL ROAD · AUSTIN, TEXAS 78744-3292

STATE OF TEXAS
CARL OWEN NIX
93674
REGISTERED PROFESSIONAL ENGINEER
4/29/2021

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TEXAS PARKS & WILDLIFE
RELEASED FOR SOLICITATION
INFRASTRUCTURE DIVISION

Path: C:\Users\cnix\Desktop\CNIX TPWD\95 PARKS PROJECTS\FLEATON_P091\MR10415 ELECTRICAL REPAIRS REPLACE PANELS AND EXPOSED WIRING\MR10415_Cover – IT.dwg

EXISTING KEYED NOTES -

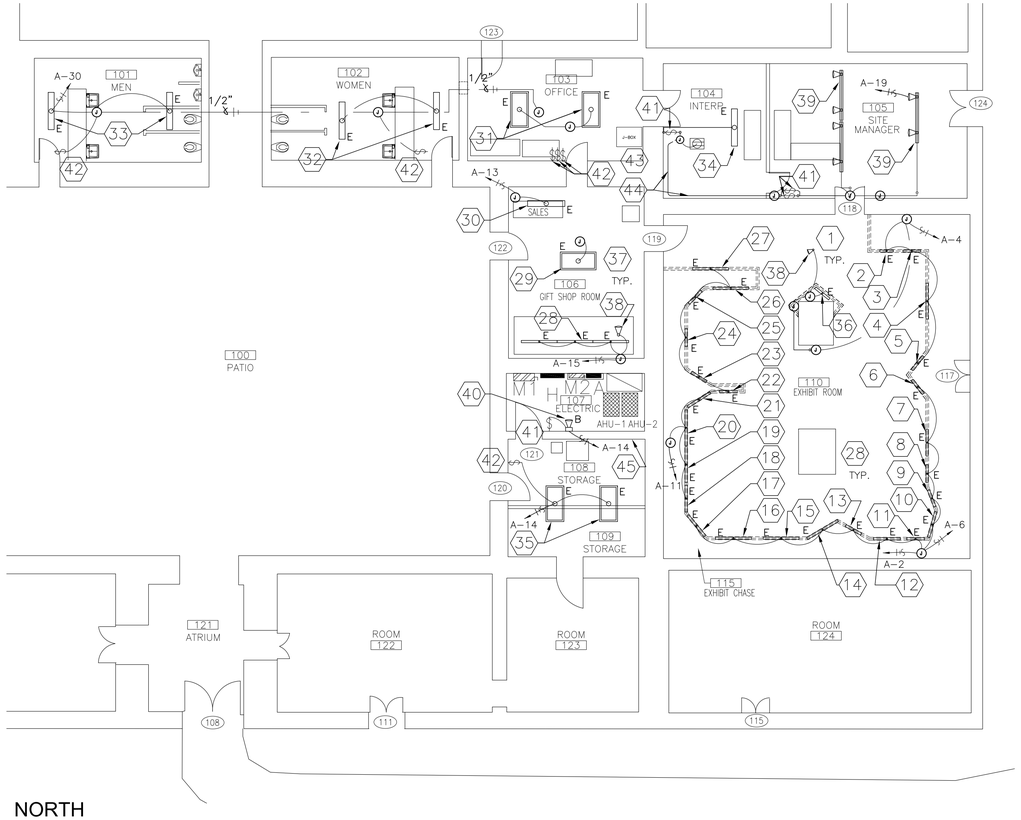
1. ORIGINAL LIGHTING CONTROLS ARE BY-PASSED. THE EXISTING LIGHTING CIRCUITS, LIGHTING FIXTURES AND EXHIBIT DISPLAY LIGHTING IN THE GIFT SHOP ROOM AND THE EXHIBIT ROOM ARE CONTROLLED BY THE CIRCUIT BREAKERS IN PANELBOARD "A". ALL LIGHTING CIRCUITS IN THESE TWO ROOMS ARE ENERGIZED WITH ROMEX WIRE, EXPOSED CONDUCTORS AND METAL JUNCTION BOXES. THE ROMEX NON-METALLIC CABLE WIRING INSIDE THE WOOD EXHIBIT STRUCTURE DISPLAYS HAVE LIMITED ACCESSIBILITY ON THE BACKSIDE OF THE DISPLAYS.
2. 3-18" FLUORESCENT CHANNEL FIXTURES EXHIBIT#1.
3. 1-24" FLUORESCENT CHANNEL FIXTURE EXHIBIT#2.
4. 1-48" FLUORESCENT CHANNEL FIXTURE EXHIBIT#3.
5. 1-24" FLUORESCENT CHANNEL FIXTURE EXHIBIT#4.
6. 1-24" FLUORESCENT CHANNEL FIXTURE EXHIBIT#5.
7. 1-36" FLUORESCENT CHANNEL FIXTURE EXHIBIT#7.
8. 1-24" FLUORESCENT CHANNEL FIXTURE EXHIBIT#8.
9. 1-24" FLUORESCENT CHANNEL FIXTURE EXHIBIT#9.
10. 1-36" FLUORESCENT CHANNEL FIXTURE EXHIBIT#10.
11. 1-24" FLUORESCENT CHANNEL FIXTURE EXHIBIT#11.
12. 1-36" FLUORESCENT CHANNEL FIXTURE EXHIBIT#12.
13. 1-24" FLUORESCENT CHANNEL FIXTURE EXHIBIT#13.
14. 1-48" FLUORESCENT CHANNEL FIXTURE EXHIBIT#14.
15. 1-48" FLUORESCENT CHANNEL FIXTURE EXHIBIT#15.
16. 1-48" FLUORESCENT CHANNEL FIXTURE EXHIBIT#16.
17. 1-36" FLUORESCENT CHANNEL FIXTURE EXHIBIT#17.
18. 1-36" FLUORESCENT CHANNEL FIXTURE EXHIBIT#18.
19. 1-48" FLUORESCENT CHANNEL FIXTURE EXHIBIT#19.
20. 1-48" FLUORESCENT CHANNEL FIXTURE EXHIBIT#19.
21. 1-24" FLUORESCENT CHANNEL FIXTURE AND 1-36" FIXTURE EXHIBIT#20.
22. 1-24" FLUORESCENT CHANNEL FIXTURE EXHIBIT#21.
23. 1-24" FLUORESCENT CHANNEL FIXTURE EXHIBIT#22.
24. 1-24" FLUORESCENT CHANNEL FIXTURE EXHIBIT#23.
25. 1-24" FLUORESCENT CHANNEL FIXTURE EXHIBIT#24.

EXISTING KEYED NOTES -

26. 1-48" FLUORESCENT CHANNEL FIXTURE EXHIBIT#25.
27. 2-24" AND 4-48" FLUORESCENT CHANNEL FIXTURES EXHIBIT#26.
28. 3-48" FLUORESCENT CHANNEL FIXTURES SALES DISPLAY.
29. 1-2X4 FLUORESCENT TROFFER IN GIFT SHOP.
30. 1-1X4 FLUORESCENT CHAIN HUNG FIXTURE AT SALES COUNTER.
31. 2-2X4 FLUORESCENT TROFFER IN OFFICE.
32. 2-1X4 FLUORESCENT TROFFER IN WOMEN RESTROOM.
33. 3-1X4 FLUORESCENT TROFFER IN MEN RESTROOM.
34. 1-CHAIN HUNG FLUORESCENT CHANNEL FIXTURE IN INTERPRETER OFFICE.
35. 2-2X4 FLUORESCENT TROFFER IN STORAGE ROOM.
36. 1- FLUORESCENT FIXTURE IN DISPLAY AT STRUCTURAL COLUMN.
37. THE CONTRACTOR SHALL FIELD VERIFY THE ACTUAL QUANTITY AND NUMBER OF LAMPS IN EACH FIXTURE. ITEMS INDICATED IN KEYED NOTES#2 THROUGH KEYED NOTES#36 ITEMS ARE SHOWN FOR THE BIDDER BUT THE ACTUAL NUMBER OF FIXTURES, LAMPS, WATTAGE AND OVERALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO BID.
38. EXISTING TO REMAIN FLOOD LIGHT.
39. EXISTING TO REMAIN TRACK LIGHT FIXTURE IN SITE MANAGERS OFFICE.
40. EXISTING PORCELAIN INCANDESCENT LIGHT FIXTURE IN ELECTRICAL ROOM.
41. EXISTING SURFACE MOUNTED LIGHT SWITCH AND CONDUIT.
42. EXISTING RECESSED FLUSH WITH WALL MOUNTED LIGHT SWITCH AND CONCEALED IN WALL CONDUIT.
43. EXISTING NON-FUNCTIONING BYPASSED LIGHTING CONTROLS IN JUNCTION BOX.
44. EXISTING SURFACE MOUNTED CONDUIT.
45. EXISTING CMU BLOCK WALL.

SEE E1.3 & E3.1 & E4.1 FOR SCHEDULES AND ONE-LINE DIAGRAMS

SEE TE5.1 FOR PROJECT SPECIFICATIONS



NORTH

1 EXISTING LIGHTING PARTIAL FLOOR

SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APROXIMATIE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

GENERAL NOTES APPLIES TO ALL ELECTRICAL AND TECHNOLOGY SHEETS

1. THE EXISTING FORT STRUCTURE IS A HISTORICAL STRUCTURE. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE SITE WHICH INCLUDES BUT NOT LIMITED TO THE ADOBE WALLS, FLOORING, CEILINGS AND FINISHES. THE CONTRACTOR SHALL REFRAIN FROM CREATING NEW WALL PENETRATIONS OR ENLARGE EXISTING WALL PENETRATIONS WITHOUT WRITTEN CONSENT FROM THE DESIGNATED TPWD REPRESENTATIVE, UNLESS NOTED OTHERWISE IN THE DRAWINGS. THE CONTRACTOR SHALL REPAIR ALL DAMAGES CREATED TO THE SITE DUE TO CONSTRUCTION. ALL REPAIRS SHALL BE MADE TO MATCH THE PRE-CONSTRUCTION CONDITIONS. IF THE CONSTRUCTION PLANS ARE NOT CLEAR OR A CONTRADICTION EXIST THE CONTRACTOR SHALL REQUEST ADDITIONAL WRITTEN DIRECTION IN ADVANCE PRIOR TO PROCEEDING WITH CONSTRUCTION. ALL ACOUSTICAL CEILING TILES BROKEN SHALL BE REPLACED TO MATCH EXISTING ACOUSTICAL CEILING TILES.
2. THE TRENCH WIDTH SHALL BE RESTRICTED TO 12 INCHES WIDE WITH A MINIATURE EXCAVATOR. TRENCHING SHALL BE LIMITED TO PREVIOUSLY EXCAVATED AREAS TO LIMIT UNDUE IMPACT TO UNDISTURBED SOILS. DO NOT DISTURB THE SOIL WITHOUT PRIOR CONSENT FROM THE DESIGNATED OWNER REPRESENTATIVE WHO SHALL BE PRESENT WITH AUTHORIZATION FROM THE DESIGNATED OWNER REPRESENTATIVE TO WITNESS ALL TRENCHING EFFORTS.
3. ALL ADJACENT BUILDINGS, STRUCTURES, PARKING LOTS, STREET PAVEMENTS, UTILITY LINES, UTILITY STRUCTURES, TREES, PLANTINGS, AND APPURTENANCES OTHER THAN SHOWN FOR REPLACEMENT SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. IF DAMAGE OCCURS, THE CONTRACTOR SHALL RESTORE THE DAMAGE TO PRIOR CONDITIONS AT NO ADDITIONAL COST TO THE OWNER. ALL CACTUS AND SHRUBS DISTURBED SHALL BE RELOCATED AND REPLANTED TO A UNDISTURBED AREA DIRECTED BY THE DESIGNATED OWNER REPRESENTATIVE. BURIAL DEPTHS AND EXCAVATION WIDTHS SHALL BE BASED ON THE SPECIES TYPE AND PUBLISHED RECOMMENDATIONS.
4. THE SITE WILL REMAIN OPEN TO THE PUBLIC DURING THE COURSE OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND SECURE THE CONSTRUCTION AREAS AND EQUIPMENT, AND TO ENSURE THAT ALL CONSTRUCTION ACCESS AND STORAGE IS LIMITED TO THE AREAS AGREED UPON WITH THE DESIGNATED OWNER REPRESENTATIVE.
5. THE CONTRACTOR SHALL PROVIDE THE DESIGNATED OWNER REPRESENTATIVE A 60 HOUR WRITTEN NOTICE, PRIOR TO CLOSING OFF EACH SECTION OF THE BUILDING FOR CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE PROTECTIVE BARRIERS AND SEAL OFF AREAS OF CONSTRUCTION TO PROVIDE PROTECTION TO THE PUBLIC AND SITE STAFF THROUGHOUT THE COURSE OF CONSTRUCTION.
   - 5.1. THE CONTRACTOR SHALL PROVIDE A UPDATED PLAN AND SCHEDULE FOR EACH STAGE OF CONSTRUCTION FOR REVIEW WITH THE PARK STAFF AND THE DESIGNATED OWNER REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO EACH PHASE OF CONSTRUCTION. THE CONTRACTOR SHALL MINIMIZE DISRUPTIONS TO THE PARK OPERATIONS. THE ELECTRICAL SERVICE AND COMMUNICATIONS SWITCH BUILDING SHUTDOWNS FOR THE ENTIRE SITE; SHALL BE PRE-APPROVED IN ADVANCE AND LIMITED TO 15 DAYS.
   - 5.2. THE CONTRACTOR SHALL PROVIDE COORDINATION WITH THE DESIGNATED OWNER REPRESENTATIVE AND UTILITY PROVIDER WITH WRITTEN CONFIRMATION IN ADVANCE PRIOR TO THE ELECTRICAL AND COMMUNICATIONS SHUT DOWN. THROUGHOUT CONSTRUCTION THE SITE STAFF SHALL REMAIN OPERATIONAL TO ADMINISTER PUBLIC ADMISSIONS TO THE SITE.
   - 5.3. REFER TO SHEET E1.4 FOR ADDITIONAL REQUIREMENTS TO ALLOW SITE STAFF TO REMAIN OPERATIONAL THROUGHOUT THE COURSE OF CONSTRUCTION. TPWD SITE STAFF SHALL RELOCATE ALL REQUIRED OFFICE FURNITURE TO THE TEMPORARY OFFICE BUILDING, ALL FURNITURE LEFT BEHIND AT THE FORT LEATON SITE, SHALL BE PROTECTED BY THE CONTRACTOR.
   - 5.4. THE CONTRACTOR SHALL PROVIDE A ONSITE WEATHERPROOF STORAGE UNIT, IF REQUIRED TO STORE THE LEFT BEHIND FURNITURE, APPLIANCES AND ITEMS LEFT BEHIND BY SITE STAFF. THE CONTRACTOR SHALL PROVIDE A WEATHERPROOF DRY ENCLOSURE TO PROTECT THE FURNITURE AND APPLIANCES FROM DAMAGE THROUGHOUT THE COURSE OF CONSTRUCTION. ALL FURNITURE AND APPLIANCES LEFT AT THE FORT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROTECT.
   - 5.5. THE CONTRACTOR SHALL PROVIDE A PORTABLE RESTROOM AT THE CONSTRUCTION SITE FOR PUBLIC AND CONTRACTOR USE, FOR THE DURATION OF THE PROJECT.
6. ALL EXCAVATION SHALL BE RESTRICTED TO THE EXISTING TRENCHES WHERE IT IS KEY TO PROTECT THE UNDISTURBED BURIED CULTURAL MATERIALS. MORE EFFORT WILL BE REQUIRED TO PHYSICALLY IDENTIFY THE LOCATION OF THE TRENCH PRIOR TO THE INITIATION OF ANY EXCAVATION OR TRENCHING. THE CONTRACTOR SHALL PHYSICALLY MARK THE LOCATION OF THE PROPOSED AND EXISTING TRENCH AT LEAST TWO WEEKS PRIOR TO TRENCH EXCAVATION. THE MARKED TRENCH AREA WILL THEN BE VERIFIED THROUGH CONTROLLED ARCHEOLOGICAL EXCAVATION BY THE PARK ARCHEOLOGIST WITH TEST UNITS. AFTER THE TRENCH IS DECLARED ARTIFACT FREE, THROUGH THE CONTRACTORS MANUAL EXCAVATION EFFORTS, THEN THE MACHINE EXCAVATION CAN CONTINUE, REFER TO EARTHWORK SPECIFICATIONS ON SHEET TE5.1 FOR ADDITIONAL MONITORING REQUIREMENTS.
7. THE CONTRACTOR SHALL COMPLETE A DAILY LOG OF ALL WORK ACTIVITIES. THIS SHALL INCLUDE A DESCRIPTION OF THE WORK AREA, WORK PERFORMED SUMMARY AND ANY ISSUES IDENTIFIED THAT DAY. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ALL AREAS IMPACTED BY THE PROJECT SHALL BE DOCUMENTED THE CONTRACTOR SHALL ASSIST THE OWNER TO PROVIDED BEFORE, DURING AND AFTER PHOTOGRAPHS. THE CONTRACTOR SHALL COORDINATE THIS EFFORT.
8. THE CONTRACTOR SHALL PAINT ALL EXPOSED CONDUIT TO MATCH THE COLOR OF THE WALLS AND CEILINGS IN ALL OCCUPIABLE AREAS WITH THE EXCEPTION OF THE ELECTRICAL ROOM AND EXHIBIT CHASE.
9. ALL CONDUITS SHALL RUN PARALLEL AND PERPENDICULAR TO THE FOLLOW THE BUILDING LINES. PROVIDE KNOCKOUT PLUGS ON ALL UNUSED EMPTY CONDUIT ENTRIES TO ALL EXISTING AND NEW JUNCTION BOXES. ALL RACEWAYS SHALL BE SECURED AND SUPPORTED. CONTRACTOR MAY USE EXISTING CONDUITS AND PULL BOXES IF THE CONDUITS AND PULL BOXES WORK WITH THE GENERAL LAYOUT OUT DESIGN AND THE CONDUCTOR FILL DOES NOT EXCEED 40%. PROVIDE PULL BOXES AS REQUIRED NOT TO EXCEED CODE ALLOWED 360 DEGREES IN BENDS. PROVIDE FACE PLATES AND COVER UP PLATES FOR ALL JUNCTION BOXES ABANDONED IN PLACE AND IN EXISTING WALL CAVITIES. ALL CONDUIT SIZES INDICATED ON THE PLANS ARE THE MINIMUM TRADE SIZES.
10. UNLESS NOTED OTHERWISE – ALL INDOOR LOCATION BRANCH CIRCUIT CONDUCTORS SHALL BE ROUTED IN EXISTING OR NEW EMT CONDUIT. ALL BRANCH CIRCUITS ROUTED EXPOSED AT THE CEILING WHERE CONCEALMENT IS NOT AN OPTION, CONDUIT SHALL BE SURFACE MOUNTED AND PAINTED TO MATCH THE STRUCTURAL SUPPORTS AND SHALL BE NEATLY ROUTED AND CONCEALED AS MUCH AS POSSIBLE. ALL LIGHTING BRANCH CIRCUITS INSIDE THE EXHIBIT CHASE AND OUT OF SIGHT OF THE GENERAL PUBLIC SHALL BE MC CABLE WITH A DEDICATED GROUNDING CONDUCTOR. ALL MC CABLE LIGHT FIXTURE WHIPS IN CONCEALED AREAS ARE LIMITED TO 6 FEET IN TOTAL LENGTH. ALL UNUSED CONDUITS WALL PENETRATIONS ABOVE THE CEILING SHALL BE CUT OFF ON BOTH SIDES OF THE WALL WITH 6" INCHES OF CONDUIT REMAINING FOR POSSIBLE FUTURE REUSE. ALL UNUSED CONDUITS SHALL BE DEMOLISHED AND REMOVED FROM THE SITE.
11. IN LOCATIONS ALLOWED ALL MC CABLE SHALL BE CONSTRUCTED WITH AFC CABLE SYSTEMS WITH A MINIMUM OF 12/3-GAUGE MC LITE CABLE WITH INNER THHN/THWN SOLID CONDUCTORS WITH A DEDICATED GROUNDING CONDUCTOR AND ALUMINUM INTERLOCKING ARMORED JACKET WITH A CONDUCTOR INSULATION MAXIMUM TEMPERATURE RATING EQUAL TO 90 DEGREES CELSIUS. THE ARMOR JACKET SHALL FEATURE PHASE/CIRCUIT STRIPES FOR EASY IDENTIFICATION. THE CABLE SHALL BE UL-LISTED FOR THROUGH-WALL PENETRATIONS.
12. REPLACE ALL INDOOR LIGHTING, LIGHTING CONTROLS, FLUORESCENT LAMPS, ELECTRICAL DEVICES AND POWER BRANCH CIRCUIT CONDUCTORS WITH A GROUNDING CONDUCTOR AND RE-ENERGIZE ALL ELECTRICAL LOADS. ALL NEW BRANCH CIRCUITS CONDUCTORS SHALL BE PULLED THROUGH NEW OR EXISTING EMT CONDUIT, UNLESS NOTED OTHERWISE. ALL ELECTRICAL DEVICES, LIGHTS AND ELECTRICAL LOADS MAY NOT BE INDICATED IN THE PLANS IT IS UP TO THE BIDDING CONTRACTOR TO FIELD VERIFY ALL EXISTING ELECTRICAL LOADS ON-SITE PRIOR TO PLACING THEIR BID.
   - 12.1. CONTRACTOR MAY REUSE EXISTING CONDUITS AND EXISTING SET SCREW FITTINGS WHERE POSSIBLE, SEE FLOOR PLANS FOR PROPOSED CONDUIT LAYOUT.
   - 12.2. ANY NEW CONDUIT INSTALLED SHALL BE EMT CONDUIT WITH COMPRESSION FITTINGS.
   - 12.3. ALL CIRCUITS SHALL INCLUDE A GROUNDING CONDUCTOR, MINIMUM SIZE CONDUCTORS SHALL BE #12 THHN/THWN-2 SOLID COPPER CONDUCTORS, UNLESS NOTED OTHERWISE.
   - 12.4. ALL REUSED AND ANY NEW PULL BOXES SHALL BE REMAIN ACCESSIBLE.
   - 12.5. SECURE AND SUPPORT ALL NEW AND REUSED RACEWAYS WITH CADDY CLIPS, BEAM CLAMPS OR CHANNEL STRUT.
   - 12.6. IN AREAS WHERE NO OTHER OPTION EXIST, NEATLY ROUTE SURFACE MOUNTED CONDUIT, PULL BOXES AND DEVICES. PAINT THE PULL BOXES AND CONDUIT TO MATCH THE WALL AND CEILING. RACEWAYS AND PULL BOXES IN THE ELECTRICAL ROOMS AND INSIDE THE EXHIBIT CHASE DO NOT REQUIRE PAINT.
   - 12.7. THE ROOMS LISTED BELOW THAT REQUIRE SURFACE MOUNTED CONDUIT AND PULL BOXES ON A ADOBE WALL STRUCTURE SHALL BE SUPPORTED AND SECURED WITH SINGLE HOLE CONDUIT STRAPS WITH ANCHORING FASTENER LISTED BELOW BASED ON WALL TYPE.
     - 12.7.1. LOCATIONS LISTED WHERE CONDUIT CAN BE NEATLY ROUTED ON THE WALL AND ROUTED AT THE CEILING ARE THE OFFICE ROOM 103, INTERPRETER ROOM 104, SITE MANAGER ROOM 105, GIFT SHOP 106, ELECTRICAL ROOM 107, STORAGE ROOM 108 AND 109. IF THE AREAS LISTED ABOVE HAVE A DROP OR CEILING CAVITY THE CONDUITS SHALL BE ROUTED ABOVE THE CEILING CAVITY WHERE POSSIBLE.
     - 12.7.2. FOR THE CEMENT PLASTER WALLS (OFFICE 103), PROVIDE 2 ¼" CONCRETE SCREW FOR MASONRY ANCHORS TO ATTACH SINGLE HOLE STRAPS TO SECURE AND SUPPORT SURFACE MOUNTED CONDUITS TO INTERIOR WALLS.
     - 12.7.3. FOR THE MUD PLASTER WALLS (GIFT 106, INTER 104, SITE MANAGER 105), PROVIDE 3" COARSE THREADED WOOD SCREWS TO ATTACH SINGLE HOLE STRAPS TO SECURE AND SUPPORT SURFACE MOUNTED CONDUITS TO INTERIOR WALLS.
     - 12.7.4. REFER TO THE TECHNOLOGY SHEETS FOR THE REQUIRED CONDUIT RUNS; PROVIDED BY THE ELECTRICAL CONTRACTOR.
     - 12.7.5. REFER TO THE LIGHTING SCHEDULE FOR THE FLUORESCENT LAMP REPLACEMENT REQUIREMENTS.
13. CONFLICTING REQUIREMENTS: WHERE COMPLIANCE WITH WITH TWO OR MORE STANDARDS OR REQUIREMENTS IS SPECIFIED, AND THEY ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, THE MOST STRINGENT AND GREATER VALUE REQUIREMENT WILL BE ENFORCED. SUBMIT A REQUEST FOR INFORMATION IF THE BID DOCUMENTS CONFLICT OR CREATE UNCERTAINTIES AS TO WHICH QUALITY LEVEL IS MORE STRINGENT TO THE ENGINEER OF RECORD FOR A DECISION BEFORE PROCEEDING.
14. TPWD EQUIPMENT REQUIREMENT;
   - A. WHERE APPLICABLE, ALL NEW LAMPS USED ON THIS PROJECT SHALL BE OF THE TOXIC CHARACTERISTIC LEACHATE PROCEDURE (TCLP) LOW MERCURY TYPE.
   - B. WHERE APPLICABLE, ALL LAMPS SCHEDULED FOR REPLACEMENT, EITHER BY DEMOLITION OR MAINTENANCE, SHALL BE HELD AND DISPOSED OF IN ACCORDANCE WITH THE UNIVERSAL WASTE RULE, THE CONTRACTOR SHALL LEGALLY DISPOSE ALL WASTE TO A OFF-SITE LOCATION.
15. THE FINAL LOCATION OF ELECTRICAL ITEMS ON THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO GIVE COMPLETE AND ACCURATE DETAILS IN REGARD TO LOCATION. EXACT LOCATION SHOULD BE DETERMINED BY ACTUAL MEASUREMENTS ON SITE AND CONTRACTOR COORDINATION, AND WILL IN ALL CASES BE SUBJECT TO THE APPROVAL OF TEXAS PARKS AND WILDLIFE DESIGNATED OWNER REPRESENTATIVE. CONTRACTOR SHALL COORDINATE THE FINAL ACTUAL LOCATIONS AND QUANTITIES IN THE FIELD WITH THE DESIGNATED TEXAS PARKS AND WILDLIFE OWNER REPRESENTATIVE. ALL DIMENSIONS ARE APPROXIMATE. NO ADDITIONAL COMPENSATION WILL BE GIVEN OR CONSIDERED FOR REASONABLE CHANGES IN THE FIELD THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND QUANTITIES IN THE FIELD PRIOR TO BIDDING THIS PROJECT. THE BIDDER SHALL VISIT THE SITE OF THE PROPOSED WORK AND SHALL FULLY INFORM HIMSELF REGARDING THE FACILITIES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR WORK OR MATERIALS OMITTED FROM BIDDER'S CONTRACT PROPOSAL DUE TO HIS FAILURE TO INFORM HIMSELF BY SUCH INVESTIGATION.
16. THE ELECTRICAL DISTRIBUTION SYSTEM SIZING IS BASED ON EQUIPMENT DATA FROM THE SPECIFIED SUPPLIER OR A TYPICAL SUPPLIER. THE CONTRACTOR IS FULLY RESPONSIBLE FOR PROVIDING THE CORRECTLY SIZED ELECTRICAL SYSTEM TO MATCH THE REQUIREMENTS OF THE NEW EQUIPMENT.
17. THE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE. ALL ELECTRICAL SYSTEMS RECEPTACLES, CABINETS, JUNCTION BOXES, MOTOR FRAMES, MISCELLANEOUS EQUIPMENT, ETC. SHALL BE GROUNDED BY A GREEN-WIRE GROUNDING CONDUCTOR.
18. PROVIDE NEW LABELS FOR ALL BRANCH CIRCUITS AND ALL DISCONNECTS, ELECTRICAL DEVICES AND PANEL SCHEDULES TO MATCH ASBUILT CONDITIONS.
19. SUBMIT FOR REVIEW FINAL ASBUILT DRAWINGS TO REFLECT ALL MODIFICATIONS TO THE EXISTING AND PROPOSED ELECTRICAL SHEETS.
20. REPLACE ALL EXISTING DUPLEX/QUAD OUTLETS. EACH DEVICE SHALL BE A 20 AMP RATED COMMERCIAL GRADE OUTLET WITH THE GROUND TERMINAL SHALL POINTING DOWN. ALL OUTLETS WITHIN 6 FEET OF A WATER SOURCE, EXIT DOOR ENTRY OR LOCATED INSIDE A RESTROOM, ELECTRICAL, STORAGE, SHOP, UNOCCUPIED OR TRANSITIONAL SPACE SHALL BE GFCI RATED. ALL OUTDOOR RECEPTACLES SHALL BE GFCI RATED AND WEATHER RATED WITH A WHILE IN-USE DIE CAST ALUMINUM COVER. CONNECT ALL CONDUCTORS TOGETHER INSIDE THE PULL BOX. PROVIDE PIG-TAIL CONNECTIONS FOR ALL CONDUCTORS TO THE RECEPTACLE TERMINALS.
21. DO NOT SPLICE FEEDER CONDUCTORS, UNLESS OTHERWISE NOTED.
22. WHERE CALLED FOR, USE 2 OR 3 POLE BREAKERS. TYING SINGLE POLE BREAKERS TOGETHER TO CREATE A 2 OR 3 POLE BREAKER IS PROHIBITED. THE USE OF TANDEM BREAKERS IN LOAD CENTERS IS PROHIBITED.
23. THE BIDDER SHALL VISIT THE SITE OF THE PROPOSED WORK AND SHALL FULLY INFORM HIMSELF REGARDING THE FACILITIES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR WORK OR MATERIALS OMITTED FROM BIDDER'S CONTRACT PROPOSAL DUE TO HIS FAILURE TO INFORM HIMSELF BY SUCH INVESTIGATION.
24. THE ELECTRICAL CONTRACTOR SHALL GUARANTEE AGAINST DEFECTS IN ANY OR ALL MATERIALS, EQUIPMENT, OR WORKMANSHIP COVERED BY THE ELECTRICAL SPECIFICATIONS, EXCEPT SUCH MATERIALS, EQUIPMENT, OR WORKMANSHIP FURNISHED BY OTHERS AND SHALL MAKE GOOD, REPAIR, OR REPLACE, AT HIS OWN EXPENSE, ANY DEFECTIVE WORK, MATERIAL OR PART WHICH MAY BECOME EVIDENT WITHIN A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK. NECESSARY SERVICE AND ADJUSTMENT DURING THE EARLY STAGES OF OPERATION AFTER OCCUPANCY SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNER.
25. TRASH AND DEBRIS SHALL BE REMOVED FROM THE PARK PROPERTY, THE CONTRACTOR SHALL SWEEP THE FLOOR AND CLEAN ALL SPACES AND DISTURBED AREAS AT THE END OF EACH WORK SHIFT TO MAINTAIN A SAFE AND CLEAN ENVIRONMENT.
26. PROVIDE EXOTHERMIC WELDS ON ALL GROUNDING ELECTRODE CONNECTIONS.
27. PROVIDE GROUNDING BUSHINGS FOR ALL SERVICE AND FEEDER CONDUCTORS AT EACH CONDUIT ENTRY, PROVIDE PLASTIC NYLON BUSHING INSULATORS ON ALL OTHER CONDUIT ENTRIES.

TEXAS PARKS & WILDLIFE

STATE OF TEXAS
CARL OWEN NIX
93674
REGISTERED PROFESSIONAL ENGINEER
4/29/2021

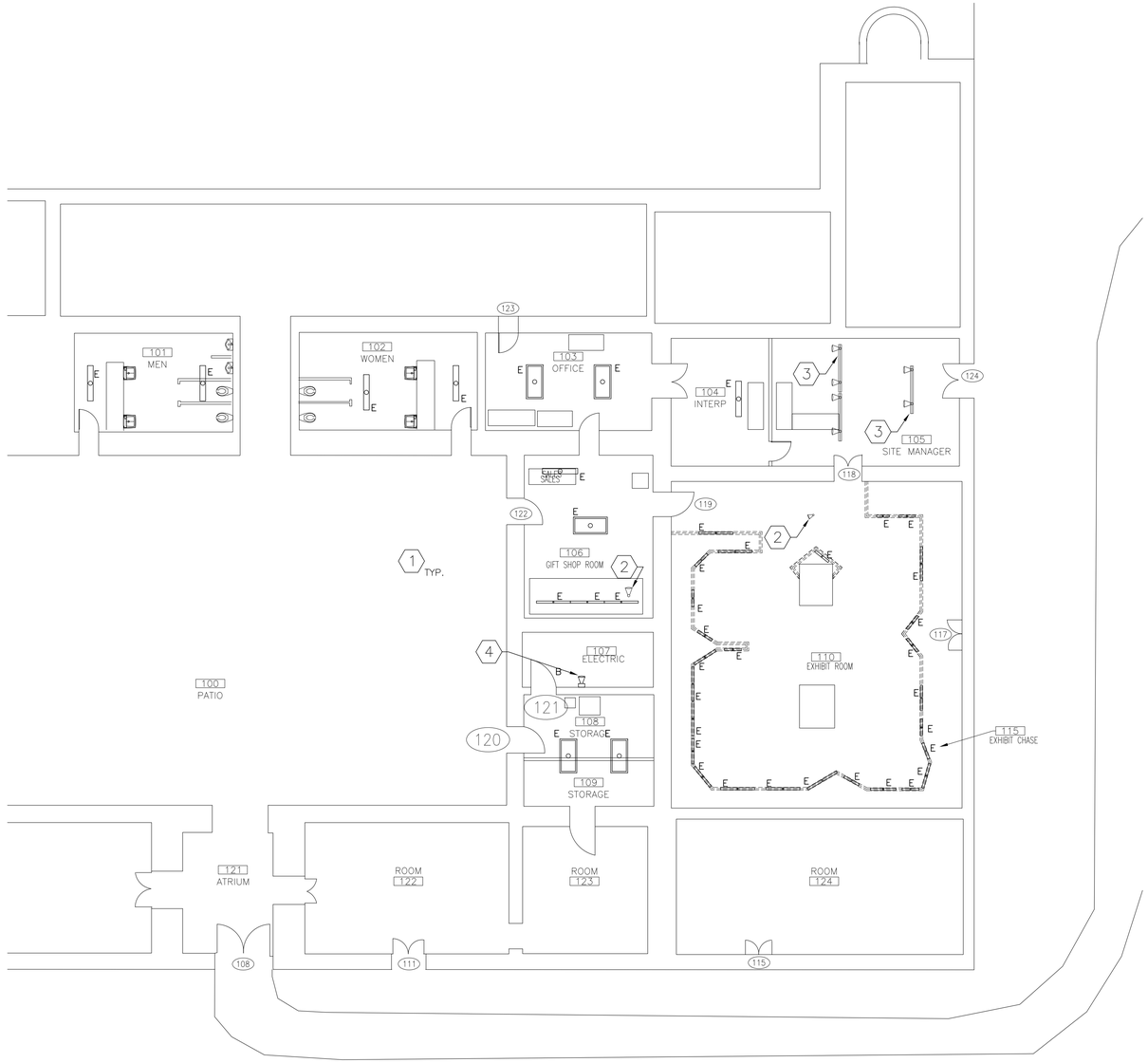
FORT LEATON STATE HISTORIC SITE
ELECTRICAL REPAIRS AND UPDATES
PROJECT: MR10415

CONSTRUCTION DRAWINGS

DATE: 04-29-2021
DESIGNED BY: CN
DRAWN BY: CN
REVIEWED BY: CN
REVISED:
REVISED:
REVISED:

SHEET TITLE
EXISTING ELECTRICAL LIGHTING PARTIAL FLOOR PLAN

SHEET NUMBER
E1.1



NORTH

1 DEMOLITION LIGHTING PARTIAL FLOOR PLAN

SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APROXIMATIE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

DEMOLITION KEYED NOTES -

1. SEE SHEET E1.1 / GENERAL NOTE#12.

1.1. DEMOLISH AND LEGALLY DISPOSE OFF SITE ALL EXISTING LIGHTING CONTROL DEVICES, FLUORESCENT BALLAST, FLUORESCENT LAMPS AND LIGHTING CIRCUITS FOR ALL FLUORESCENT LIGHT FIXTURES.

1.2. PREPARE ALL FLUORESCENT LIGHT FIXTURES TO BE RELAMPED WITH LED BALLAST BYPASS LAMPS WITH AN INTERNAL DRIVER TO OPERATE ON THE AVAILABLE LINE VOLTAGE.

1.3. DEMOLISH, BYPASS AND REMOVE FROM THE PROJECT SITE ALL EXISTING FLUORESCENT BALLAST IN ALL FLUORESCENT LIGHT FIXTURES. DEMOLISH ALL ROMEX NON-METALLIC CABLE WIRING ON THE PROJECT SITE AND INSIDE THE WOOD EXHIBIT STRUCTURE DISPLAYS WHICH HAVE LIMITED ACCESSIBILITY THROUGH THE EXHIBIT CHASE.

1.4. ALL DEMOLISHED ITEMS INCLUDING THE LAMPS AND BALLAST SHALL BE REMOVED AND LEGALLY DISPOSED OF AT A LOCAL LANDFILL.

1.5. PRIOR TO DEMOLISHING THE LAMPS THE CONTRACTOR SHALL MAKE A SKETCH DOCUMENTING THE QUANTITY AND LOCATION OF EACH LAMP SIZE, TYPE AND WATTAGE TO BE SUBMITTED TO THE ENGINEER FOR REVIEW WITH THE LAMP SUBMITTALS WHICH SHALL BE FIELD VERIFIED BY THE DESIGNATED OWNERS REPRESENTATIVE.

1.6. PRIOR TO DEMOLITION ALL REPLACEMENT LAMPS SHALL BE ONSITE, TO ENSURE THE EXHIBIT CAN BE DISPLAYED, UNTIL THE REPLACEMENT FIXTURES ARE ON SITE.

1.7. THE CONTRACTOR MAY REUSE THE EXISTING CONDUITS, CONTRACTOR SHALL PRACTICE SELECTIVE DEMOLISHING PRACTICES TO AVOID CAUSING DAMAGE TO THE EXISTING SURFACES, DEVICES, FURNITURE, WALLS, CEILINGS, FLOORING, ADOBE WALL STRUCTURES, APPLIANCES, DISPLAY CASES AND OFFICE EQUIPMENT.

1.8. ALL UNUSED CONDUITS SHALL BE DEMOLISHED AND REMOVED FROM THE PROJECT SITE.

1.9. ALL UNUSED CONDUITS PENETRATING A ADOBE WALL ABOVE THE CEILING OR LOCATED IN THE ELECTRICAL ROOM SHALL BE CUT 6" FROM THE WALL ON BOTH SIDES OF THE WALL PENETRATION THIS PORTION OF THE CONDUIT SHALL BE ABANDONED IN PLACE AND PREPARED FOR FUTURE USE. THE CONTRACTOR SHALL DEBURR ALL SHARP CUT EDGES.

2. EXISTING TO REMAIN; FLOOD LIGHT.

3. EXISTING TO REMAIN; TRACK LIGHT FIXTURE IN SITE MANAGERS OFFICE.

4. DEMOLISH THE EXISTING PORCELAIN INCANDESCENT LIGHT FIXTURE; IN ELECTRICAL ROOM.

SEE E1.1 FOR GENERAL NOTES

SEE TE5.1 FOR PROJECT SPECIFICATIONS

SEE E1.3 & E3.1 & E4.1 FOR SCHEDULES AND ONE-LINE DIAGRAMS

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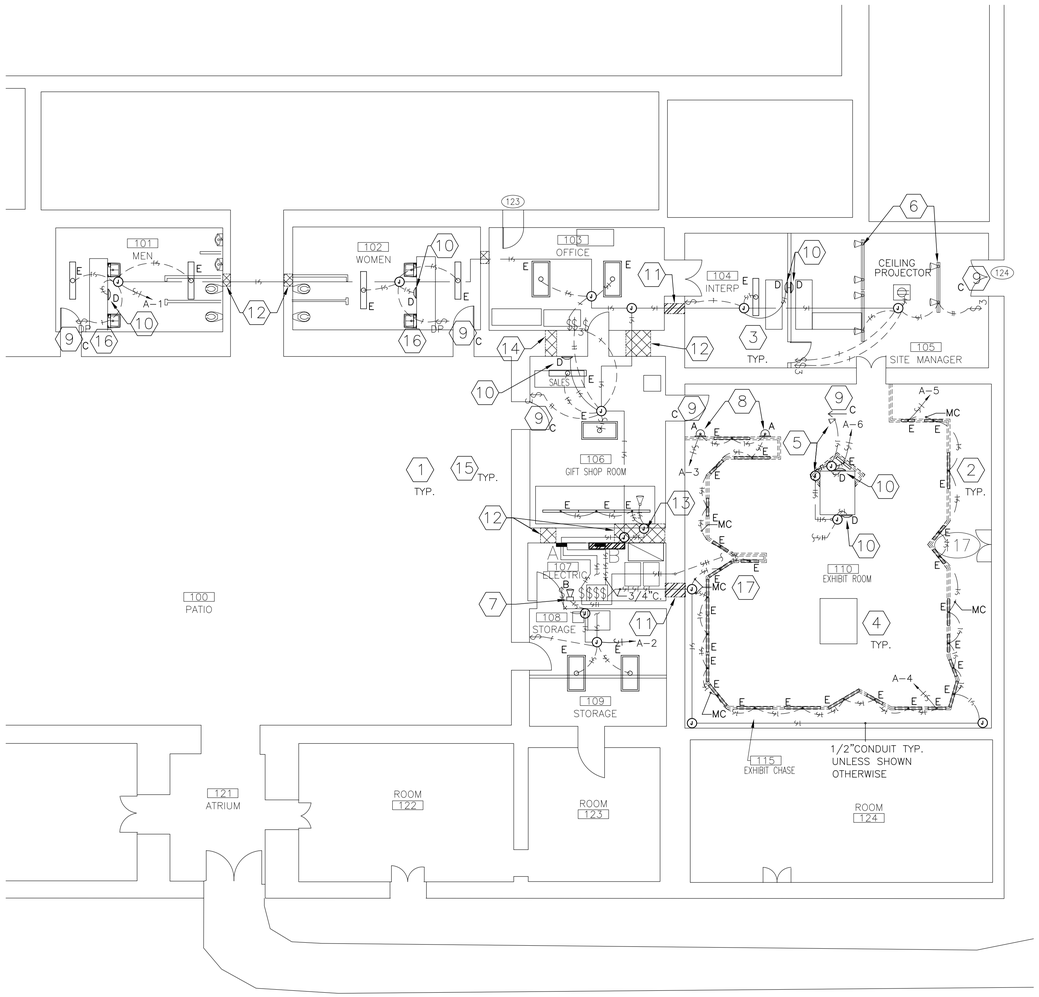
SHEET TITLE
DEMOLITION
ELECTRICAL
LIGHTING
PARTIAL
FLOOR PLAN

SHEET NUMBER
E1.2

LIGHTING FIXTURE AND PHOTOLUMINESCENT EXIT SIGN SCHEDULES

TYPE	MANUFACTURER AND MODEL NUMBER	VOLTAGE	LAMPS	NOTES
A	MINKA LAVERY ASPEN MODEL 1974-1-138	120	1-E12 LED 5.3W 2700 K	RUSTIC WALL SCONCE WITH 1-LED/E-12 CANDELABRA 60W EQUIVALENT 5.3W LAMP
B	FIXTURE: LITHONIA MSN8-17-120-RE-M6 LAMP: CREE C-T824-A-178W-35K-B1	120	1-F17T8 3500 K	24" CHANNEL FIXTURE WITH WIRE GUARD. CONTRACTOR SHALL BY-PASS THE FIXTURE BALLAST AND DEMOLISH THE BALLAST. THE CONTRACTOR SHALL PROVIDE A NO FLICKER FULL GLASS FROSTED LED LAMP WITH A INTEGRAL DRIVER MANUFACTURED BY CREE OR EQUAL.
C	NIGHTBRIGHT USA PHOTOLUMINESCENT EXIT SIGN	N/A	N/A	PROVIDE A NIGHTBRIGHT USA PHOTOLUMINESCENT GREEN EXIT SIGN. PRINTED ON ALUMINUM 14.25" x 7.5" SUITABLE FOR CEILING, WALL OR FLOOR. ETL LISTED TO STD. UL 924. THE SIGN SHALL INCLUDE A SET OF DIRECTIONAL ARROWS TO BE INSTALLED IN THE FIELD AS NEEDED. THE SIGN SHALL COME WITH PRE-DRILLED HOLES IN EACH CORNER WITH 4 PLASTIC ANCHORS AND 4 TAMPER RESISTANT ONE WAY SCREWS.
D	COMPASS BY HUBBELL LIGHTING MODEL CU2SD	120	LED 1W HEADS	LOW PROFILE UL924 LABELED WHITE IN COLOR LED EMERGENCY EGRESS LIGHT WITH A NICKEL CADMIUM BATTERY WITH SELF-DIAGNOSTIC FEATURES DUAL 1 WATT LED HEADS AND A MINIMUM 90 MINUTE RUN TIME. NFPA-101 AND NFPA-70 COMPLIANT
E	FIXTURE: EXISTING FLUORESCENT LIGHT FIXTURES RELAMP EXISTING FIXTURE: RETROFIT BY-PASS LED LAMPS MANUFACTURED BY CREE C-T8XX-A-XXW-35K-B1 OR EQUAL.	120	MATCH EXISTING LAMP WATTAGE WITH A LED EQUIVALENT WATTAGE 3500K	PROVIDE A LED BYPASS LAMP TO REPLACE ALL EXISTING FLUORESCENT LAMPS ON-SITE. THE CONTRACTOR SHALL FIELD VERIFY THE ACTUAL QUANTITY OF FIXTURES AND NUMBER OF LAMPS PER FIXTURE PRIOR TO BID. THE CONTRACTOR SHALL BY-PASS THE FIXTURE BALLAST AND DEMOLISH THE BALLAST. THE CONTRACTOR SHALL PROVIDE A NO FLICKER FULL GLASS FROSTED LED LAMP WITH A INTEGRAL DRIVER MANUFACTURED BY CREE OR EQUAL. THE LAMP COLOR SHALL BE 3,500 KELVIN, WITH A CRI RATING EQUAL OR GREATER THAN 80. THE MINIMUM LAMP LIFE HOURS SHALL BE AT LEAST 40,000 HOURS WITH A MINIMUM 5 YEAR WARRANTY. THE CONTRACTOR SHALL MAKE A SKETCH DOCUMENTING THE QUANTITY AND LOCATION OF EACH LAMP SIZE, TYPE, STYLE AND WATTAGE TO BE SUBMITTED TO THE ENGINEER FOR REVIEW WITH THE LAMP SUBMITTAL. PROVIDE TWO REPLACEMENT LED LAMPS FOR EACH LAMP LENGTH PROVIDED 18", 24",36" AND 48" FOR A TOTAL OF 8 REPLACEMENT LED LAMPS.



NORTH

1 PROPOSED LIGHTING PARTIAL FLOOR PLAN

SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APROXIMATIE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

PROPOSED KEYED NOTES -

1. SEE SHEET E1.1 / GENERAL NOTE #12.
   - 1.1. REPLACE ALL FLUORESCENT LAMPS ON-SITE WITH A UL-LISTED INSTANT ON NO FLICKER LED BALLAST BYPASS LAMPS WITH A LINE VOLTAGE INTERNAL DRIVER THAT MATCHES THE EXISTING LAMP LUMENS.
   - 1.2. ALL SHUNTED OR NON-USABLE BI-PIN TUBE LIGHT SOCKET LAMP HOLDERS SHALL BE REPLACED WITH A NEW LAMP HOLDER WHERE REQUIRED.
   - 1.3. THE PLUG AND PLAY LAMPS REQUIRES THE CONTRACTOR TO BYPASS THE EXISTING BALLAST IN EACH FIXTURE TO RUN EACH LED REPLACEMENT LAMP ON AVAILABLE LINE VOLTAGE.
   - 1.4. THE CONTRACTOR SHALL PROVIDE DISCONNECT CONNECTORS WITH LUMI-NUTS™ - PUSHWIRE™ CONNECTORS OR EQUAL TO SERVE AS A DISCONNECT MEANS BETWEEN THE SWITCH LEG BRANCH CIRCUIT LINE VOLTAGE AND THE LAMP TOMBSTONE LAMP CONNECTIONS.
   - 1.5. THE CONTRACTOR SHALL SELECT, PURCHASE AND INSTALL LED TUBE LIGHTS TO MATCH EXISTING LAMP LUMENS AND AVAILABLE LINE VOLTAGE FOR EACH FIXTURE. SEE LIGHTING FIXTURE SCHEDULE.
2. MC CABLE IS PROHIBITED WITH THE EXCEPTION OF LOCATIONS INSIDE THE EXHIBIT DISPLAY WOOD STRUCTURE. ALL MC CABLE SHALL BE CONCEALED OUT OF SIGHT AND HIDDEN FROM THE GENERAL PUBLIC. MC CABLE MAY ALSO BE PROVIDED IN CONCEALED LOCATIONS FOR LIGHT FIXTURE WHIPS WITH A TOTAL LENGTH NOT TO EXCEED 6 FEET.
3. UNLESS INDICATED OTHERWISE, ALL LIGHTING CIRCUITS SHALL BE 3 #12 THHN/THWN-2 IN 1/2" EMT CONDUIT OR LARGER WITH SOLID COPPER CONDUCTORS. CONTRACTOR MAY REUSE EXISTING EMT CONDUIT, IF THE CONDUIT FILL DOES NOT EXCEED 40%. IN AREAS WHERE THE CIRCUITS CAN NOT BE CONCEALED OR HIDDEN FROM VIEW THE CONDUIT SHALL BE NEATLY ROUTED AND SURFACE MOUNTED AND CONCEALED AS MUCH AS POSSIBLE. SEE GENERAL NOTES FOR SECURING AND SUPPORTING CONDUIT TO EXISTING ADOBE WALLS AND STRUCTURES.
4. THE CONTRACTOR SHALL FIELD VERIFY THE ACTUAL QUANTITY AND NUMBER OF LAMPS IN EACH FIXTURE. ITEMS ARE SHOWN FOR THE BIDDER ON SHEET E1.1, E1.2 AND E1.3 BUT THE ACTUAL NUMBER OF FIXTURES, LAMPS, WATTAGE AND OVERALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO BID.
5. EXTEND POWER AND LIGHTING CONTROL TO FLOOD LIGHT FIXTURE FROM COLUMN WITH MC CABLE. NEATLY RAISE THE PULL BOX ABOVE THE DISPLAY.
6. EXTEND POWER AND LIGHTING CONTROL TO TRACK LIGHT FIXTURES IN SITE MANAGERS OFFICE.
7. PROVIDE A NEW LIGHT FIXTURE TO REPLACE THE PORCELAIN INCANDESCENT LIGHT FIXTURE IN THE ELECTRICAL ROOM. SEE LIGHTING SCHEDULE.
8. PROVIDE A NEW LIGHT FIXTURE CENTERED ON EACH SIDE OF THE EXHIBIT DISPLAY. NEATLY PROVIDE A NEW PULL BOX FROM THE BACKSIDE OF THE DISPLAY TO MOUNT EACH NEW WALL SCONCE TO THE EXISTING WALL WOOD STRUCTURE. COORDINATE THE FINAL LOCATION IN THE FIELD WITH THE DESIGNATED OWNER REPRESENTATIVE. THE FIXTURES SHALL BE MOUNTED ABOVE THE LIGHTED EXHIBITS TOWARDS THE TOP OF THE WOOD WALL STRUCTURE.
9. PROVIDE A NIGHTBRIGHT USA PHOTOLUMINESCENT GREEN EXIT SIGN. SEE LIGHTING SCHEDULE.
10. CONTRACTOR SHALL PROVIDE A NEW EMERGENCY EGRESS LIGHT FIXTURE. EXTEND LIGHT CIRCUIT FROM NEAREST AVAILABLE LIGHTING CIRCUIT, DO NOT SWITCH THE HOT FOR THE EGRESS LIGHT FIXTURE, EXTEND THE HOT CONDUCTOR TO PROVIDE CONTINUOUS POWER TO BATTERY PACK AND MAKE FINAL TERMINATIONS. COORDINATE LIGHT FIXTURE WITH EXISTING CONDITIONS. PROVIDE ALL NECESSARY HARDWARE TO WALL MOUNT LIGHT AS HIGH AS POSSIBLE CENTERED ON WALL. SEE LIGHTING SCHEDULE.
11. UNLESS A KEYED NOTE IN THE PLANS SPECIFICALLY CALLS OUT A NEW WALL PENETRATION REQUIRING THE CONTRACTOR TO CORE DRILL THROUGH THE EXISTING ADOBE WALL STRUCTURE, THE CONTRACTOR SHALL WORK WITH THE EXISTING WALL OPENINGS AND EXISTING CONDUIT PENETRATIONS TO ROUTE ALL NEW AND EXISTING CONDUITS, RACEWAYS AND BRANCH CIRCUITS FOR LIGHTING AND POWER. THE EXISTING HISTORIC ADOBE WALLS SHALL BE PROTECTED AND THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID DISTURBING THE ADOBE WALL STRUCTURE THIS SHALL BE THE TYPICAL APPROACH TO ALL RACEWAY INSTALLATIONS. THIS LOCATION IS AN EXCEPTION FOR THE CONTRACTOR WHO IS ALLOWED TO CREATE A NEW WALL PENETRATION WITH A CORE DRILL BIT JUST LARGE ENOUGH FOR THE 3/4" CONDUIT TO SLIDE THROUGH THE 1" DRILLED HOLE.
12. CONTRACTOR SHALL WORK WITH THE EXISTING WALL OPENINGS AND EXISTING CONDUIT PENETRATIONS TO ROUTE ALL NEW AND EXISTING CONDUITS, RACEWAYS AND BRANCH CIRCUITS FOR LIGHTING AND POWER. THE EXISTING HISTORIC ADOBE WALLS SHALL BE PROTECTED AND THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID DISTURBING THE ADOBE WALL STRUCTURE. THIS SHALL BE THE TYPICAL APPROACH, TO ALL RACEWAY INSTALLATIONS. THIS LOCATION IS A KNOWN OPENING IN THE EXISTING WALL FOR MULTIPLE CONDUITS TO PASS THROUGH.
13. PROVIDE A DECORATIVE COVER PLATE FOR THE IN-WALL JUNCTION BOX CONCEALED BEHIND WOOD CASE SALES DISPLAY. NEATLY TRIM BACK DISPLAY TO REVEAL THE JUNCTION BOX AND CREATE A CLEAN PROFESSIONALLY CRAFTED ACCESS PLATE.
14. CONTRACTOR MAY REUSE EXISTING CONDUITS ENTERING THIS WALL ABOVE THE CEILING. EXTEND POWER TO THE EXISTING IN WALL DEVICES AND LIGHT SWITCHES. DO NOT CREATE NEW PENETRATIONS IN THIS SECTION OF THE WALL.
15. PAINT ALL EXPOSED CONDUIT TO MATCH THE COLOR OF THE WALLS AND CEILINGS IN THE OCCUPIABLE AREAS, WITH THE EXCEPTION OF THE ELECTRICAL ROOM AND EXHIBIT CHASE. USE A COURSE HORSE BRUSH WITH A WATER SOLUBLE DEGREASER TO SCRUB AWAY THE OILY COATING ON THE CONDUITS, PULL BOXES AND JUNCTION BOXES. WASH AWAY THE OILY FILM WITH A CLEAN DAMP RAG AFTER SCRUBBING THE CONDUIT. APPLY A SELF ETCHING PRIMER AND ALLOW TO CURE PER MANUFACTURERS INSTRUCTIONS. APPLY TWO THIN COATS OF ACRYLIC LAYTEX PAINT TO THE CONDUITS AND SURFACE MOUNTED PULL BOXES AND JUNCTION BOXES. AVOID SPLATTERING PAINT ON ADJACENT SURFACES.
16. PROVIDE A DOUBLE POLE SINGLE THROW LIGHT SWITCH, INTERLOCK THE EXHAUST FAN WITH THE RESTROOM LIGHTS.
17. EACH LIGHTING CIRCUIT SHALL BE INDIVIDUALLY CONTROLLED BY A DEDICATED TOGGLE LIGHT SWITCH IN ELECTRICAL ROOM 107, LABEL EACH SWITCH ACCORDING TO THE CIRCUIT AND LOCATION.

SEE E1.1 FOR GENERAL NOTES

SEE TE5.1 FOR PROJECT SPECIFICATIONS

SEE E1.3 & E3.1 & E4.1 FOR SCHEDULES AND ONE-LINE DIAGRAMS

TEXAS PARKS & WILDLIFE

STATE OF TEXAS
CARL OWEN NIX
93674
REGISTERED PROFESSIONAL ENGINEER
4/29/2021

FORT LEATON STATE HISTORIC SITE
ELECTRICAL REPAIRS AND UPDATES
PROJECT: MR10415

CONSTRUCTION DRAWINGS

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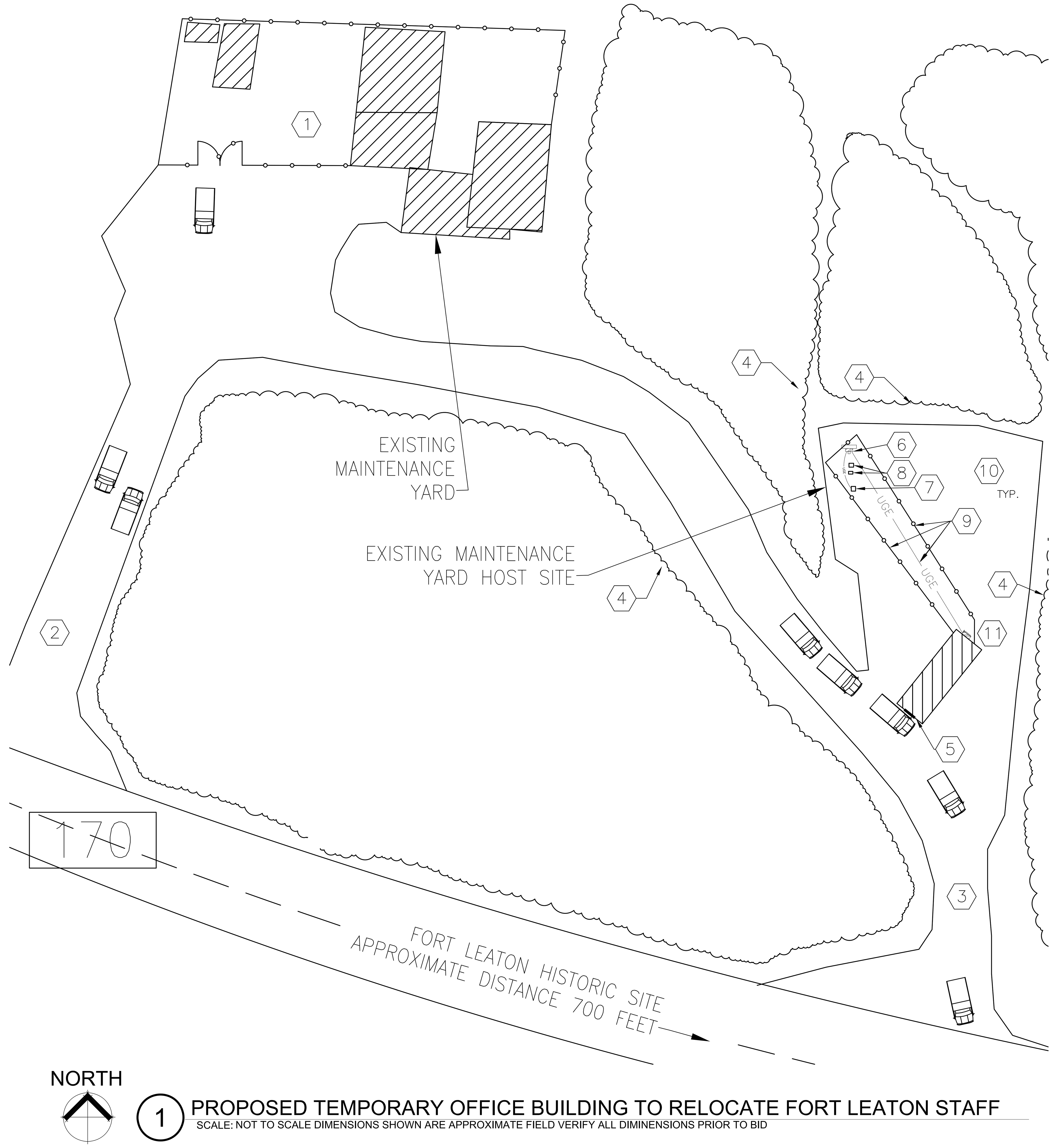
SHEET TITLE
PROPOSED ELECTRICAL LIGHTING PARTIAL FLOOR PLAN

SHEET NUMBER
E1.3



1 PROPOSED TEMPORARY OFFICE BUILDING TO RELOCATE FORT LEATON STAFF

SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APPROXIMATE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

TEMPORARY SITE STAFF OFFICE KEYED NOTES -

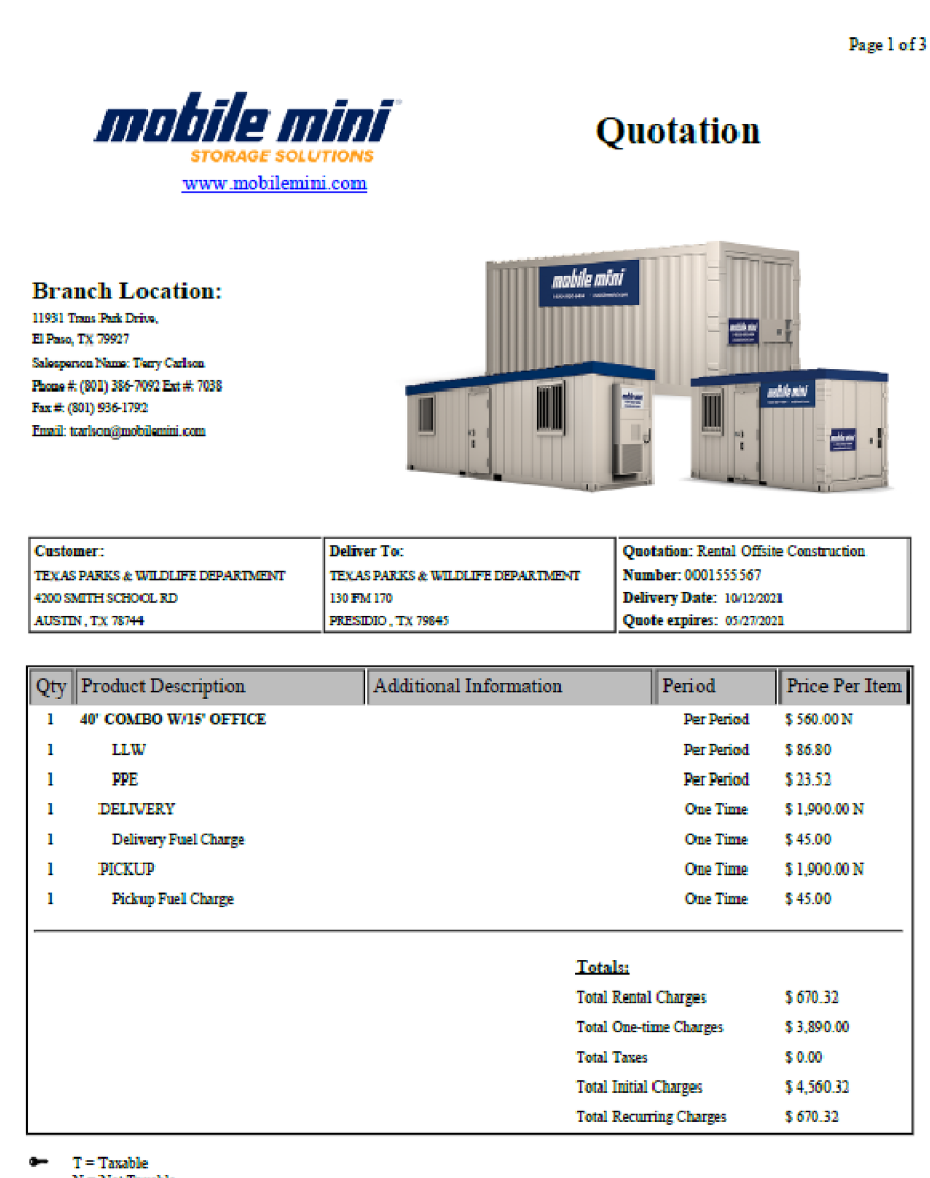
1. SITE STAFF WORKING IN THE TEMPORARY OFFICE BUILDING WILL UTILIZE THE EXISTING RESTROOMS LOCATED WITHIN THE EXISTING BUILDINGS AT THE TEXAS PARKS AND WILDLIFE MAINTENANCE YARD. MAINTENANCE YARD ENTRANCE IS LOCATED APPROXIMATELY 700 FEET WEST OF FORT LEATON HISTORIC SITE PARKING ENTRANCE ON FARM MARKET ROAD 170.
2. EXISTING ENTRANCE TO THE MAINTENANCE YARD, WILL SERVE AS THE ADMISSIONS ENTRANCE TO THE TEMPORARY DRIVE THROUGH SITE STAFF SALES OFFICE, DURING THE COURSE OF CONSTRUCTION.
3. EXISTING ENTRANCE TO THE MAINTENANCE YARD, WHICH SHALL BE USED AS THE EXIT FOR THE TEMPORARY DRIVE THROUGH SALES OFFICE.
4. EXISTING NON-DISTURBED, NON-PAVED AREAS TO REMAIN UNDISTURBED.
5. THE CONTRACTOR SHALL PROVIDE A 40 FOOT X 8 FOOT GROUND-LEVEL; SKID MOUNTED GROUND LEVEL TEMPORARY OFFICE BUILDING MANUFACTURED BY MOBILE MINI BUILDING MANUFACTURER MODEL DESCRIPTION 40' OFFICE STORAGE COMBO W/15' OFFICE WITH MANUFACTURER ADDED OPTION TO CLOSE-IN THE END WALL ON THE DOUBLE DOOR END OF RENTAL UNIT WITH SINGLE SLIDER DRIVE THRU WINDOW AND 32 INCH INTERIOR SWING EXTERIOR METAL HOLLOW ENTRY DOOR WITH COMMERCIAL GRADE ACCESSIBLE DOOR HARDWARE INSTALLED PER NFPA REQUIREMENTS. PROVIDE R19 INSULATION IN THE END WALL WOOD STICK FRAMED WALL CAVITY; MATCH THE INTERIOR FINISH OUT TO ADJACENT INTERIOR WALLS. THE EXTERIOR SHALL BE SEALED WITH WEATHERPROOF SIDING. MOBILE MINI. SALES CONTACT PERSON IS TERRY CARLSON (801) 386-7092 EXT 7038; SALES BRANCH LOCATION IS EL PASO, TEXAS. RENTAL MANUFACTURER COMPANY AGREED TO ADD THE END WALL FOR AN ADDITIONAL FEE. SEE SHEET E1.4/DETAIL#2 FOR THE QUOTE PROVIDED. ADDITIONAL FEES DO NOT INCLUDE TO THE END WALL LOCATED AT THE DOUBLE DOORS IN QUOTE PROVIDED, THE CONTRACTOR SHALL VERIFY ALL FINAL EXPENSES WITH BUILDING MANUFACTURER. QUOTE IS INTENDED PROVIDE GENERAL INFORMATION. AN ADDITIONAL LIST OF MINIMUM PERFORMANCE SPECIFICATION AND BASIS OF DESIGN REQUIREMENTS AREA LISTED BELOW. THE DRIVE THRU WINDOW SILL SHOULD BE SET AT 38 INCHES ABOVE FINAL FINISHED GRADE.
   - 5.1. CONTRACTOR SHALL PROVIDE A BUILDING SUBMITTAL PER CONDITIONS LISTED BELOW AND PER SHEET TE5.1 CONTRACTORS SUBMITTAL LIST.:
     - 5.1.1. SUBMIT UNDER PROVISIONS OF "TERMS AND CONDITIONS" OF THE CONTRACT.
     - 5.1.2. MARK ALL SUBMITTAL LITERATURE TO INDICATE THE PRECISE SELECTION OF MATERIALS, DIMENSIONS AND EQUIPMENT, ADDED CLOSED-IN WALL MANUFACTURER SKETCH OR DRAWING TO INCLUDE THE PERSONNEL ENTRANCE DOOR AND WINDOW. NOTE THAT IF THE SPECIFIC MODEL OR MATERIAL IS NOT INDICATED IN THE SUBMITTAL, AND THERE IS MORE THAN ONE CHOICE POSSIBLE, THE SUBMITTAL MAY BE REJECTED AND A RE-SUBMITTAL WILL BE REQUIRED.
     - 5.1.3. PROPOSED SUBMITTAL LIST SHALL INCLUDE ALL EQUIPMENT WITH MANUFACTURER OR MODEL NUMBERS CALLED OUT IN THE DRAWINGS. WHERE THE PLANS AND SPECIFICATIONS CALL OUT A MANUFACTURER OR MODEL NUMBER, CONTRACTOR SHALL PROVIDE AND SUBMIT THE EXACT MANUFACTURER AND MODEL NUMBER OR EQUAL PRODUCT DESCRIPTIONS PER THE TERMS AND CONDITIONS. REFERENCE THIS SHEET AND ITEMS LISTED BELOW WHICH SHALL BE INCLUDED AS PART OF THE REQUIRED SUBMITTAL INDICATED IN THE CONTRACTOR'S PROJECT SUBMITTAL LIST.
     - 5.1.4. THE MANUFACTURER SHALL HAVE 5-YEARS OF DOCUMENTED MANUFACTURING EXPERIENCE BUILDING TEMPORARY OFFICE BUILDINGS.
     - 5.1.5. BUILDING SHALL INCLUDED AT A MINIMUM (2) LOCKABLE ENTRANCE DOORS, WITH A SIDE ENTRY DOOR THAT OPENS TO THE OUTSIDE WITH LOCKING HARDWARE TO MEET OR EXCEED THE NFPA-NATIONAL FIRE PROTECTION ASSOCIATION MINIMUM EGRESSES REQUIREMENTS. PROVIDE TEMPORARY WOOD CONSTRUCTED STEPS FOR EACH SIDE ENTRY DOOR TO MEET INTERNATIONAL BUILDING CODE REQUIREMENTS. PROVIDE 4 MIL, BLACK POLY SHEETING CAST IN PLACE A CONCRETE DOME SHAPED CONCRETE LANDING TO NOT TO EXCEED A 7" HEIGHT STEP FOR END WALL ENTRY DOOR CAST-IN-PLACE ON THE POLY SHEETING, SLOPE CONCRETE STEP AWAY FROM THE DOOR LANDING TO MEET EXISTING GRADES. AT THE END OF THE PROJECT THE CONCRETE STEP SHALL BE REMOVED FROM SITE AND LEGALLY DISPOSED.
     - 5.1.6. THE BUILDING SHALL BE PROVIDED WITH AT LEAST (1) WINDOW ON THE SHORT DIMENSION, GABLE END OF THE SITE STAFF SALES OFFICE BUILDING TO SERVE THE PUBLIC WITH A DRIVE THROUGH OPERABLE ADA WINDOW FOR ADMISSIONS SALES TO FORT LEATON SITE, INCLUDING BUT NOT LIMITED TO HUNTING AND FISHING LICENSE SALES. THE ATTENDANT SHALL BE ABLE TO HAND A SALES TICKET, CREDIT CARD, AND CURRENCY THROUGH THE SALES WINDOW TO VISITOR SITTING IN THE DRIVER SEAT OF THE VEHICLE DURING THE COURSE OF THE TRANSACTION.
     - 5.1.7. BUILDING SHALL INCLUDE THERMOSTAT CONTROLS WITH HEATING AND COOLING OPTIONS TO MEET OR EXCEED ANSI/ASHRAE STANDARD 55; THERMAL ENVIRONMENTAL CONDITIONS FOR HUMAN OCCUPANCY WITHIN ESTABLISHED ENVIRONMENTAL CONDITIONS TO ACHIEVE ACCEPTABLE THERMAL COMFORT.
     - 5.1.8. BUILDING SHALL BE EQUIPPED WITH FLUORESCENT INTERIOR CEILING LIGHTS AND A EXTERIOR ENTRANCE LIGHT WITH LIGHTING CONTROLS AT BUILDING ENTRANCE.
     - 5.1.9. BUILDING SHALL BE SUPPLIED WITH ELECTRICAL SUB-PANEL WITH A MINIMUM 100 AMP RATING. THE BUILDING ELECTRICAL SYSTEM SHALL BE DESIGNED TO SERVE AT A MINIMUM (3) OFFICE COMPUTERS, (1) FLOOR MOUNTED PRINTER/SCANNER/COPIER, (1) COFFEE POT, (1) MICROWAVE AND A COUNTER TOP HUNTING AND LICENSE SALES MACHINE. ALL ELECTRICAL OUTLETS SHALL BE RATED AT 15 AMPS AND/OR 20 AMPS 110 VOLTS. THE BUILDING ELECTRICAL WIRING SYSTEM AND ELECTRICAL GROUNDING SYSTEM SHALL MEET OR EXCEED THE NATIONAL ELECTRICAL CODE 2020 REQUIREMENTS. THE TOTAL LOAD OF THE BUILDING SHALL NOT EXCEED A 100 AMP ELECTRICAL SERVICE.
     - 5.1.10. CONTRACTOR SHALL PROVIDE, DELIVER AND SET THE TEMPORARY OFFICE BUILDING ON PRE-MANUFACTURED CONCRETE PADS TO LEVEL THE BUILDING.
     - 5.1.11. CONTRACTOR SHALL CLEAR THE AREA OF DEBRIS, LARGE ROCKS AND VEGETATION, AS REQUIRED TO SET AND LEVEL THE BUILDING ON PRE-MANUFACTURED CONCRETE PADS AND CEDAR SHAKE SHIMS AND WOOD BLOCKING. THE CONTRACTOR SHALL REFRAIN FROM RESHAPING THE EXISTING GRADES AND MINIMIZE SOIL DISTURBANCE.
     - 5.1.12. CONTRACTOR SHALL ADJUST AND MINIMIZE THE BUILDING FLOOR ELEVATIONS AND WINDOW SILL OPENING HEIGHT TO ENSURE THE OPERABLE WINDOW SERVING THE PUBLIC WITH DRIVE THROUGH WINDOW IS OF SUFFICIENT ELEVATION TO MATCH ADA REQUIREMENTS. THE SINGLE SLIDER DRIVE THROUGH WINDOW SHALL BE NOT WIDER THAN 48 INCHES, SET THE WINDOW SILL HEIGHT AT 38 INCHES ABOVE ACTUAL FINAL GRADE, CONTRACTOR SHALL COORDINATE WITH WITH BUILDING MANUFACTURE TO ENSURE THE FINAL ELEVATION OF THE BUILDING IS KNOWN TO ESTABLISH THE 38 INCH WINDOW ELEVATION TO MEET ADA REQUIREMENTS BASED ON THE FINAL BUILDING ELEVATION. THE CONTRACTOR CAN NOT SHAPE OR SHAVE THE EXISTING GRADES DUE TO CONCERNS OF DISTURBING EXISTING BURIED CULTURAL DEPOSITS.
     - 5.1.13. CONTRACTOR SHALL PROVIDE A WEATHERPROOF OCCUPIABLE BUILDING FOR THE DURATION OF THE PROJECT. SITE STAFF SHALL BE ALLOWED TO RELOCATE TO THE TEMPORARY BUILDING PRIOR TO THE CONTRACTOR COMMENCING WORK. THE BUILDING SHALL REMAIN FULLY FUNCTIONAL AND OCCUPIED BY SITE STAFF UP TO SUBSTANTIAL COMPLETION.
     - 5.1.14. ONCE SUBSTANTIAL COMPLETION IS ESTABLISHED, SITE STAFF SHALL BE GIVEN A 2-WEEK WRITTEN NOTICE TO VACATE THE TEMPORARY BUILDING AND MOVE BACK INTO FORT LEATON EXISTING OFFICES.
     - 5.1.15. AFTER SITE STAFF VACATE THE BUILDING, THE CONTRACTOR SHALL REMOVE THE BUILDING FROM THE PREMISES AND RESTORE THE SITE TO THE ORIGINAL FOUND CONDITION.
6. EXISTING 100 AMP, SINGLE PHASE, ELECTRICAL SERVICE WITH A 100/2 AMP, 2-POLE SERVICE RATED NEMA-3R ENCLOSED BREAKER SERVING A DEDICATED 100 AMP MAIN, 50 AMP MIDWEST RV PEDESTAL, SEE SHEET E4.1/DETAIL3 FOR EXISTING PHOTOS.
   - 6.1. PROVIDE A NEW GROUNDING SYSTEM; PROVIDE A NEW BONDING SCREW TO BOND THE NEUTRAL TO THE GROUND AT THE 100/2 ENCLOSED BREAKER. PROVIDE (2) 3/4" X 10' COPPER CLAD AND SUPPLEMENTAL GROUND ROD WITH EXOTHERMIC WELDS TO ACHIEVE 25 OHMS OR LESS. PROVIDE 3/4"C W/1-#6 AWG(GEC) AND SUPPLEMENTAL GROUND ROD, IF SECOND GROUND ROD IS NOT NECESSARY TO MEET NEC-2020, DO NOT INSTALL. SET GROUND RODS WITH A 6 FOOT SEPARATION TO AVOID UNNECESSARY SOIL DISTURBANCE. PROVIDE EXOTHERMIC WELDS (SEE SPECIFICATIONS). HAND EXCAVATE A 12 INCH DEEP TRENCH, NO WIDER THAN 4 INCHES, TRENCHING MINIMIZED AND MONITORED FOR TO MITIGATE DISTURBING EXISTING BURIED CULTURAL DEPOSITS, SEE SHEET TE5.1 EARTHWORK SPECIFICATIONS.
   - 6.2. CONTRACTOR SHALL PROVIDE NEMA-3R RATED HOLE SEALS MANUFACTURED BY PENTAIR OR EQUAL; TO SEAL ALL EXISTING AND CREATED UNUSED CONDUIT OPENINGS IN THE EXISTING ENCLOSED BREAKER ENCLOSURE.
7. EXISTING 100 AMP MAIN, 50 AMP RV PEDESTAL. CONTRACTOR SHALL DISCONNECT AND DEMOLISH THE EXISTING RV CIRCUIT CONDUCTORS; PRIOR TO ENERGIZING THE TEMPORARY BUILDING. AFTER THE THE TEMPORARY BUILDING IS REMOVED; THE CONTRACTOR SHALL PULL IN NEW COPPER THHN/THHWN CONDUCTORS AND REUSE THE EXISTING 1 1/4" CONDUIT. PULL IN 3-#3 + 1-#8 (G) EA IN EXISTING UNDERGROUND CONDUIT FROM THE EXISTING RV PEDESTAL TO THE EXISTING 100 AMP ENCLOSED BREAKER RE-ENERGIZE THE EXISTING RV PEDESTAL FROM THE EXISTING 100 AMP ENCLOSED BREAKER. CONTRACTOR SHALL FIELD DETERMINE ACTUAL CONDUCTOR LENGTHS REQUIRED. APPROXIMATE DISTANCE IS LESS THAN 50 FEET.
8. EXISTING RV WATER RISER WITH HOSE BIBB AND SANITARY SEWER CLEAN OUT.
9. PROVIDE A NEW PROTECTED TEMPORARY ABOVEGROUND FEEDER TO ENERGIZE THE TEMPORARY BUILDING; PROVIDE A RIGID NONMETALLIC SCHEDULE 80 PVC 1 1/2"" CONDUIT; PULL IN 3-#1 + 1-#4 (G) EA FROM THE EXISTING 100/2 ENCLOSED BREAKER TO THE TEMPORARY BUILDING ELECTRICAL SUB-PANEL, REMOVE THE BONDING JUMPER IF PREVIOUSLY INSTALLED.
   - 9.1. PROVIDE TEMPORARY CONSTRUCTION FENCING WITH AT MINIMUM 48 INCH TALL ORANGE CONSTRUCTION MESH FENCING MATERIAL WITH 6 FOOT T-POST AND T-POST SAFETY CAPS TO PROTECT THE EXISTING RV PEDESTAL, EXISTING SANITARY SEWER CLEAN OUT, EXISTING RV PEDESTAL AND PROPOSED TEMPORARY FEEDER SERVING THE TEMPORARY BUILDING. PROVIDE A WOOD CONSTRUCTED CAP TO COVER AND PROTECT THE TEMPORARY CONDUIT FEEDER DURING THE COURSE OF CONSTRUCTION. CONSTRUCT THE WOOD CAP WITH (2) 2X4 STUDS LAID ON THE 1 1/2" EDGE WITH A 2X6 CAP. SECURE AND SUPPORT THE CONDUIT ENTRAPPED BY THE WOOD CAP WITH T-POST ON EACH SIDE OF THE WOOD CAP ON 6 FOOT CENTERS RUNNING THE FULL LENGTH OF THE TEMPORARY FEEDER. APPROXIMATE FEEDER LENGTH IS 100 FEET FROM EXISTING LOAD CENTER TO CLOSEST CORNER OF THE TEMPORARY BUILDING. CONTRACTOR SHALL REMOVE THE T-POST WITH A T-POST PULLER TO PREVENT UNNECESSARY EXCAVATION.
10. CONTRACTOR SHALL FIELD VERIFY ALL APPROXIMATED LENGTHS AND ACTUAL CONDITIONS ON SITE PRIOR TO PLACING BID, DRAWING ARE DIAGRAMMATIC AND IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE THE APPROPRIATE INSTALLATION TO PROVIDE FULLY FUNCTIONAL TEMPORARY BUILDING TO HOUSE SITE STAFF DURING CONSTRUCTION AND TO MEET THE INTENT OF THE DIAGRAMMATIC DRAWINGS. ALL FINAL LOCATIONS SHALL BE COORDINATED AND FIELD DETERMINED WITH THE DESIGNATED OWNER REPRESENTATIVE.
11. PROVIDE A NEW GROUNDING SYSTEM; PROVIDE A NEW BONDING SCREW TO BOND THE NEUTRAL TO THE GROUND AT THE 100/2 ENCLOSED BREAKER. PROVIDE (2) 3/4" X 10' COPPER CLAD AND SUPPLEMENTAL GROUND ROD WITH UL LISTED GROUND ROD CLAMP TO ACHIEVE 25 OHMS OR LESS. PROVIDE 3/4"C W/1-#6 AWG(GEC) AND SUPPLEMENTAL GROUND ROD, IF SECOND GROUND ROD IS NOT NECESSARY TO MEET NEC-2020 DO NOT INSTALL. SET GROUND RODS WITH A 6 FOOT SEPARATION TO AVOID UNNECESSARY SOIL DISTURBANCE. PROVIDE EXOTHERMIC WELDS (SEE SPECIFICATIONS). HAND EXCAVATE A 12 INCH DEEP TRENCH, NO WIDER THAN 4 INCHES, TRENCHING MINIMIZED AND MONITORED FOR TO MITIGATE DISTURBING EXISTING BURIED CULTURAL DEPOSITS, SEE SHEET TE5.1 EARTHWORK SPECIFICATIONS. BOND THE BUILDING STRUCTURAL STEEL AND ALL METALLIC PIPING WITH A #6 BARE COPPER CONDUCTOR. AT THE END OF THE PROJECT CUT GROUNDING ELECTRODE CONDUCTOR JUST BELOW GRADE AND ABANDON IN PLACE GROUND RODS.

ADDITIONAL GENERAL NOTES APPLY TO ALL SHEETS

1. TPWD SHALL PROVIDE A CELLULAR HOT SPOT DEVICE FOR INTERNET SERVICE FOR THE TEMPORARY BUILDING.
2. TELEPHONE SERVICE WILL NOT BE PROVIDED FOR THE TEMPORARY BUILDING, DURING THE COURSE OF CONSTRUCTION.
3. TPWD HAS THE OPTION TO PROVIDE A DONGLES FOR WIRELESS CONNECTIONS FROM THE IT PROVIDED NETWORK SWITCH TO EACH COMPUTER.
4. TPWD SHALL PROVIDE CROSS CONNECT ETHERNET CABLES TO CONNECT PHONES, COMPUTERS AND ALL NECESSARY SUPPORT EQUIPMENT.
5. TPWD SHALL RELOCATE EXISTING FURNITURE, APPLIANCES, PERSONAL ITEMS, COMPUTERS, PHONES, PRINTERS, SCANNERS, FAX MACHINES, HUNTING AND FISHING LICENSE SALES MACHINE, AND ALL SUPPLIES NECESSARY TO OPERATE DURING THE COURSE OF CONSTRUCTION.
6. TPWD SHALL PROVIDE ALL NECESSARY SIGNAGE TO SUPPORT THE DRIVE THROUGH WINDOW SALES OFFICE AND MAINTENANCE YARD TO PROVIDE TRAFFIC CONTROL.
7. TPWD SHALL PROVIDE ALL NECESSARY SIGNAGE TO NOTIFY THE PUBLIC OF THE NEW OFFICE LOCATION AND TO MEET THE MINIMUM ADA REQUIREMENTS TO SUPPORT THE DRIVE THROUGH SALES OFFICE TO ADMINISTER ADMISSIONS SALES.
8. TPWD SHALL RELOCATE THE EXISTING TRAVEL TRAILER FROM THE EXISTING HOST SITE AT THE MAINTENANCE YARD TO THE RESIDENCE HOST SITE PRIOR TO CONSTRUCTION.

SEE E1.1 FOR GENERAL NOTES

SEE TE5.1 FOR PROJECT SPECIFICATIONS



Page 1 of 3

mobile mini STORAGE SOLUTIONS
www.mobilemini.com

Quotation

Branch Location:
11931 Trans Park Drive,
El Paso, TX 79927
Salesperson Name: Terry Carlson
Phone #: (801) 386-7092 Ext #: 7038
Fax #: (801) 936-1792
Email: tcarlson@mobilemini.com

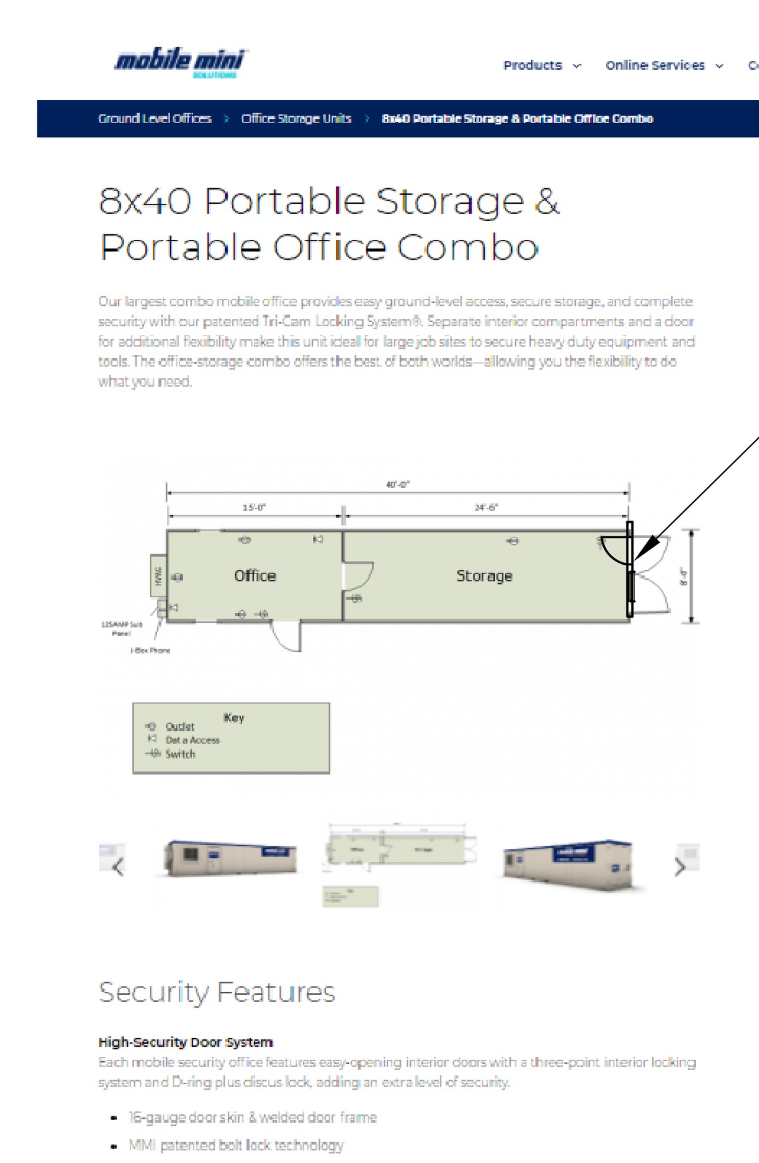
Customer:	Deliver To:	Quotation: Rental Offsite Construction
TEXAS PARKS & WILDLIFE DEPARTMENT 4200 SMITH SCHOOL RD AUSTIN , TX 78744	TEXAS PARKS & WILDLIFE DEPARTMENT 130 FM 170 PRESIDIO , TX 79845	Number: 0001555567 Delivery Date: 10/12/2021 Quote expires: 05/27/2021

Qty	Product Description	Additional Information	Period	Price Per Item
1	40' COMBO W/15' OFFICE		Per Period	$ 560.00 N
1	LLW		Per Period	$ 86.80
1	PPE		Per Period	$ 23.52
1	DELIVERY		One Time	$ 1,900.00 N
1	Delivery Fuel Charge		One Time	$ 45.00
1	PICKUP		One Time	$ 1,900.00 N
1	Pickup Fuel Charge		One Time	$ 45.00

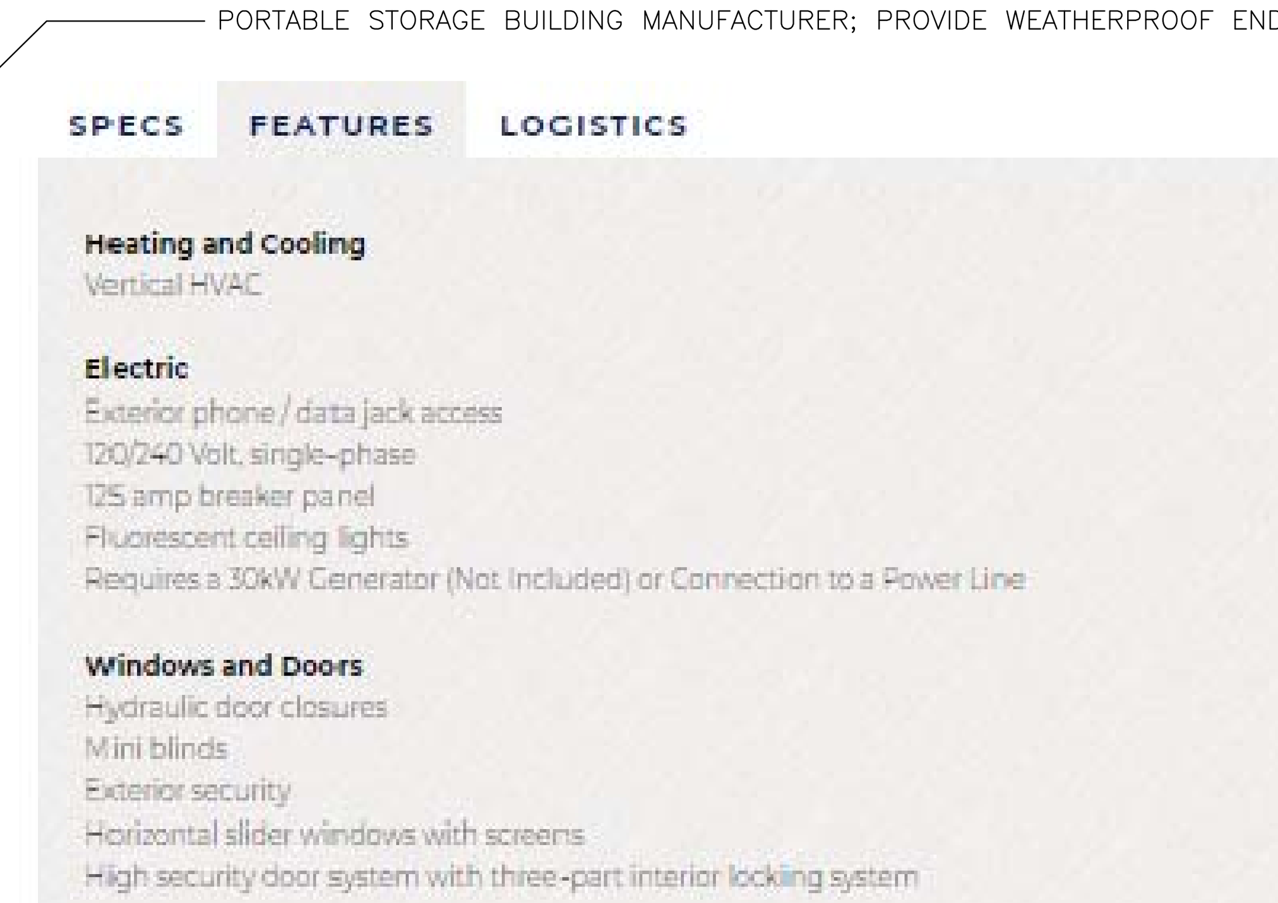
Totals:

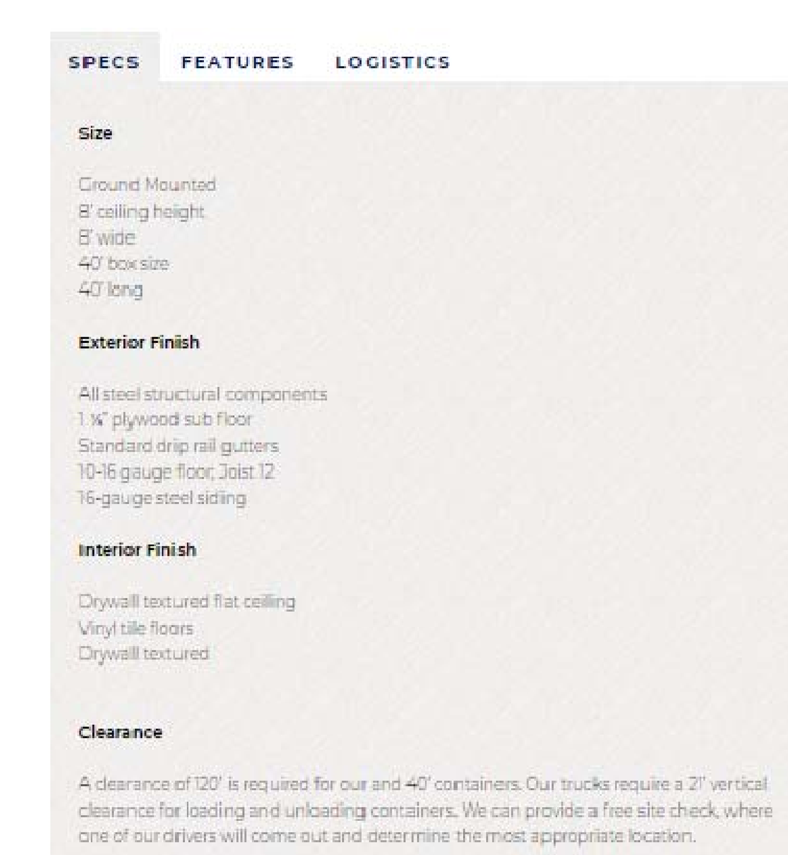
Total Rental Charges	$ 670.32
Total One-time Charges	$ 3,890.00
Total Taxes	$ 0.00
Total Initial Charges	$ 4,560.32
Total Recurring Charges	$ 670.32

T = Taxable
N = Not Taxable



PORTABLE STORAGE BUILDING MANUFACTURER; PROVIDE WEATHERPROOF END WALL WITH DOOR AND DRIVE THRU WINDOW

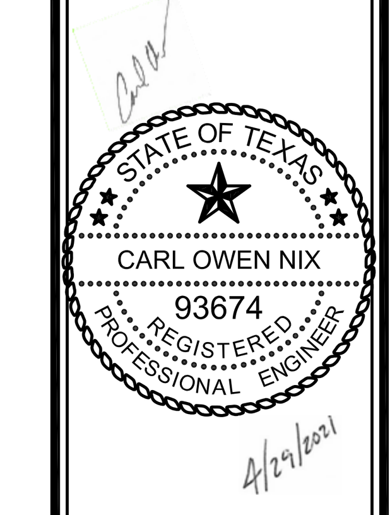




2 PROPOSED TEMPORARY OFFICE BUILDING MINIMUM REQUIREMENTS

SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APPROXIMATE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

TEXAS PARKS & WILDLIFE



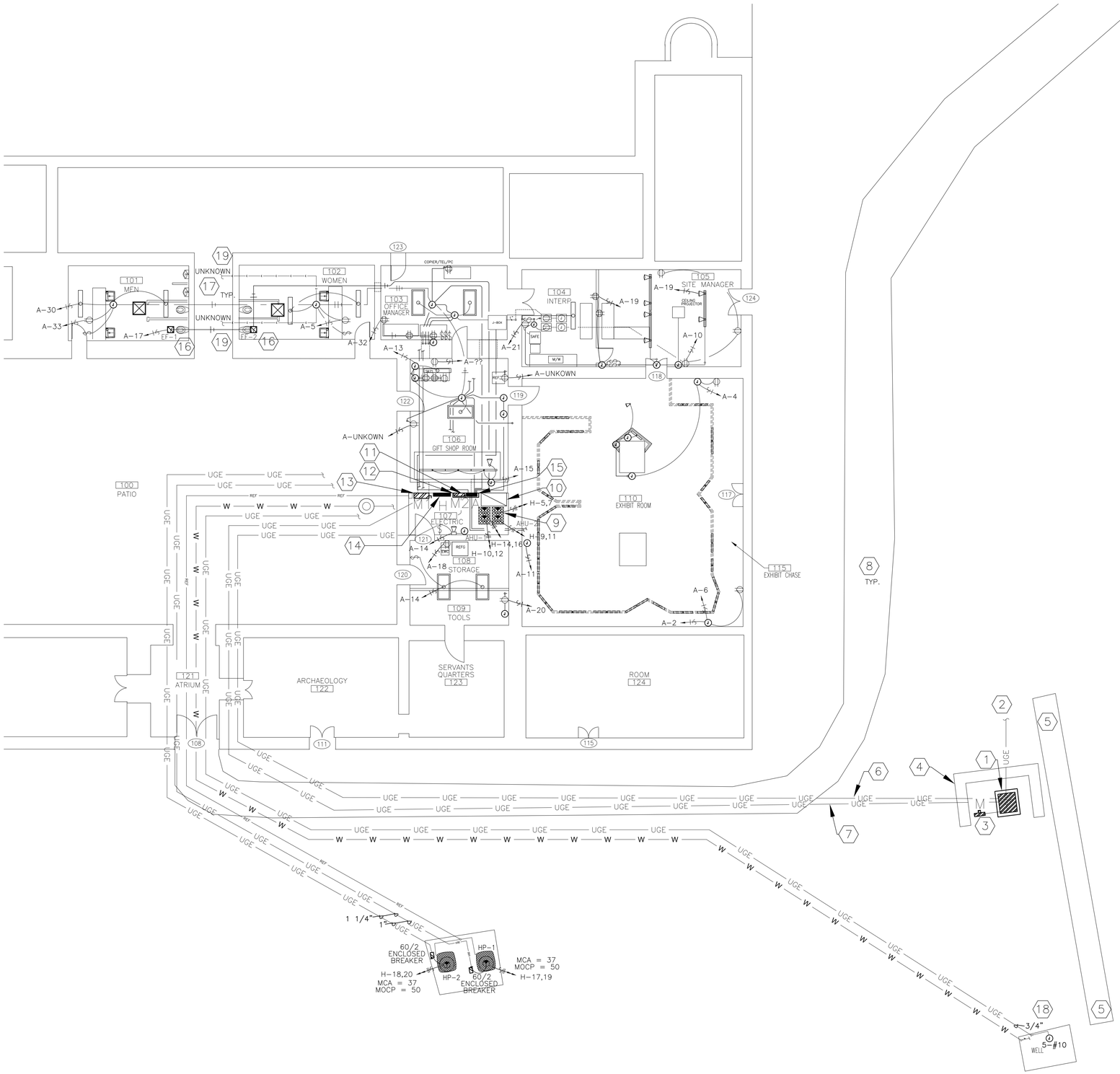
FORT LEATON STATE HISTORIC SITE
ELECTRICAL REPAIRS AND UPDATES
PROJECT: MR10415

DATE: 04-29-2021
DESIGNED BY: CN
DRAWN BY: CN
REVIEWED BY: CN
REVISED:
REVISED:
REVISED:

CONSTRUCTION DRAWINGS

SHEET TITLE
PROPOSED TEMPORARY BUILDING PLAN

SHEET NUMBER
E1.4



EXISTING KEYED NOTES -

1. EXISTING 50 KVA PAD MOUNTED ELECTRICAL TRANSFORMER.
2. EXISTING UNDERGROUND ELECTRICAL PRIMARY POWER.
3. EXISTING UTILITY PROVIDER METER CABINET.
4. EXISTING ADOBE STRUCTURE WITH CEDAR POST ROOF STRUCTURE TO REMAIN. CEDAR POST ARE REMOVABLE AND NOT ATTACHED AND CAN BE MOVED TO ACHIEVE CLEARANCES TO LIFT TRANSFORMER BY BUCKET TRUCK.
5. EXISTING METAL STAIRWELL WITH HANDRAIL TO REMAIN UNDISTURBED.
6. EXISTING UNDERGROUND SECONDARY SERVICE CONDUCTORS IN 2-2" CONDUITS SERVING SERVICE DISCONNECT "M2" AND PANELBOARD "A". THE CONDUIT IS SCHEDULED TO BE RE-USED.
7. EXISTING UNDERGROUND SECONDARY SERVICE CONDUCTORS IN 2-2 1/2" CONDUITS SERVING SERVICE DISCONNECT "M1" AND PANELBOARD "H". THE CONDUIT IS SCHEDULED TO BE RE-USED.
8. EXISTING ROCK AND MORTAR PATHWAY TO REMAIN UNDISTURBED.
9. EXISTING INDOOR FAN COIL UNITS TO REMAIN UNDISTURBED.
10. EXISTING FAN COIL UNIT SUPPLY AND RETURN DUCT TO REMAIN UNDISTURBED.
11. EXISTING "M2" 400 AMP SERVICE DISCONNECT FUSED AT 225 AMPS SCHEDULED TO BE DEMOLISHED.
12. EXISTING 6X6X48 AUXILIARY SERVICE GUTTER LOCATED UNDER THE DISCONNECT "M2" AND PANELBOARD "A" SCHEDULED TO BE SHORTENED AND REPLACED.
13. EXISTING "M1" 600 AMP FUSED SERVICE DISCONNECT SCHEDULED TO BE DEMOLISHED.
14. EXISTING 600 AMP MLO PANELBOARD "H" SCHEDULED TO BE DEMOLISHED.
15. EXISTING 225 AMP MLO PANELBOARD "A". SCHEDULED TO BE DEMOLISHED.
16. EXISTING EXHAUST FAN SCHEDULED TO BE REPLACED.
17. EXISTING LIGHTING AND POWER BRANCH CIRCUITS AND CONDUIT LAYOUT FOR CONSTRUCTION REFERENCE.
18. EXISTING WELL HOUSE AND ABANDONED WELL.
19. EXISTING UNKNOWN LOAD, CONTRACTOR SHALL INVESTIGATE AND MAKE A DETERMINATION TO PROVIDE ELECTRICAL POWER TO THE EXISTING UNKNOWN LOAD.

SEE E1.1 FOR GENERAL NOTES

SEE TE5.1 FOR PROJECT SPECIFICATIONS

SEE E1.3 & E3.1 & E4.1 FOR SCHEDULES AND ONE-LINE DIAGRAMS

NORTH

1 EXISTING PARTIAL ELECTRICAL POWER SITE PLAN AND PARTIAL LIGHTING PLAN

SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APROXIMATIE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

TEXAS PARKS & WILDLIFE

STATE OF TEXAS
CARL OWEN NIX
93674
REGISTERED PROFESSIONAL ENGINEER
4/29/2021

FORT LEATON STATE HISTORIC SITE
ELECTRICAL REPAIRS AND UPDATES
PROJECT: MR10415

CONSTRUCTION DRAWINGS

DATE: 04-29-2021
DESIGNED BY: CN
DRAWN BY: CN
REVIEWED BY: CN
REVISED:
REVISED:
REVISED:

SHEET TITLE
EXISTING PARTIAL ELECTRICAL POWER SITE PLAN AND PARTIAL LIGHTING PLAN

SHEET NUMBER
E2.1

DEMOLITION KEYED NOTES -

1. DEMOLISH METER, CUT UNUSED CONDUIT JUST BELOW GRADE AND ABANDON IN PLACE.
2. DEMOLISH THE EXISTING UNUSED PORTION OF THE UNDERGROUND SECONDARY SERVICE CONDUCTORS AND CONDUIT RISERS AND PREPARE THE UNDERGROUND 2-2" CONDUITS FOR REUSE.
3. DEMOLISH THE EXISTING UNUSED PORTION OF THE UNDERGROUND SECONDARY SERVICE CONDUCTORS AND CONDUIT RISERS AND PREPARE THE UNDERGROUND 2-2 1/2" CONDUITS FOR REUSE.
4. EXISTING ROCK AND MORTAR PATHWAY TO REMAIN UNDISTURBED AND PROTECTED.
5. EXISTING INDOOR FAN COIL UNITS AND REFRIGERANT LINES, RETURN DUCTWORK AND SUPPLY DUCTWORK SHALL REMAIN UNDISTURBED AND PROTECTED.
6. DEMOLISH THE EXISTING "M2" 400 AMP SERVICE DISCONNECT FUSED AT 225 AMPS. THE CONTRACTOR SHALL USE PRECAUTIONARY MEASURES TO PREVENT DAMAGE TO THE EXISTING ADOBE WALLS AND EXHIBITS. THE CONTRACTOR SHALL PREPARE THE 2-2" RISER CONDUITS FOR REUSE.
7. DEMOLISH THE EXISTING 6X6X48 AUXILIARY SERVICE GUTTER LOCATED UNDER THE DISCONNECT "M2" AND PANELBOARD "A" SCHEDULED TO BE SHORTENED AND REPLACED. PREPARE ALL RISER RACEWAYS, CONDUIT ENTRIES, NIPPLES AND CONDUCTORS FOR REUSE.
8. DEMOLISH THE EXISTING "M1" 600 AMP FUSED SERVICE DISCONNECT. THE CONTRACTOR SHALL PREPARE THE 2-2 1/2" CONDUIT RISERS FOR REUSE.
9. DEMOLISH THE EXISTING 600 AMP MLO PANELBOARD "H". THE CONTRACTOR SHALL USE PREPARE CONDUITS FOR REUSE.
10. DEMOLISH THE EXISTING 225 AMP MLO PANELBOARD "A". THE CONTRACTOR SHALL PREPARE CONDUITS FOR REUSE.
11. THE EXISTING PORTION OF THE UNDERGROUND CONDUITS LOCATED IN BETWEEN THE EXISTING UTILITY TRANSFORMER ORIGINAL LOCATION AND THE PROPOSED CONDUIT INTERSECTING POINT SHALL BE CUT BELOW GRADE AND ABANDONED IN PLACE. PREPARE ALL FOUR EXISTING CONDUITS TO BE EXTENDED AND PULLED UP INTO THE PROPOSED PULL BOX. SEE SHEET E2.3.
12. DEMOLISH ALL EXISTING LIGHT SWITCHES, LIGHTING CONTROLS AND ELECTRICAL OUTLETS. THE CONTRACTOR SHALL SELECTIVELY DEMOLISH ALL UNUSED CONDUIT AND UNUSED HANGERS. THE CONTRACTOR SHALL USE CAUTION TO PROTECT THE EXISTING STRUCTURE AND ALL FINISHES.
13. DEMOLISH THE EXISTING 60 AMP ENCLOSED BREAKER AND CONDUCTORS, PREPARE CONDUITS FOR REUSE.
14. DEMOLISH THE EXISTING 60 AMP ENCLOSED BREAKER AND CONDUCTORS PREPARE CONDUITS FOR REUSE.
15. DEMOLISH FLEXIBLE CONDUIT AND PULL BOX TO ABANDONED WATER WELL. PREPARE RACEWAY AND CONDUCTORS FOR REUSE.

SEE E1.1 FOR GENERAL NOTES

SEE TE5.1 FOR PROJECT SPECIFICATIONS

SEE E1.3 & E3.1 & E4.1 FOR SCHEDULES AND ONE-LINE DIAGRAMS

NORTH

1 DEMOLITION ELECTRICAL POWER PARTIAL SITE PLAN

SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APROXIMATIE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

TEXAS PARKS & WILDLIFE

STATE OF TEXAS
CARL OWEN NIX
93674
REGISTERED PROFESSIONAL ENGINEER
4/29/2021

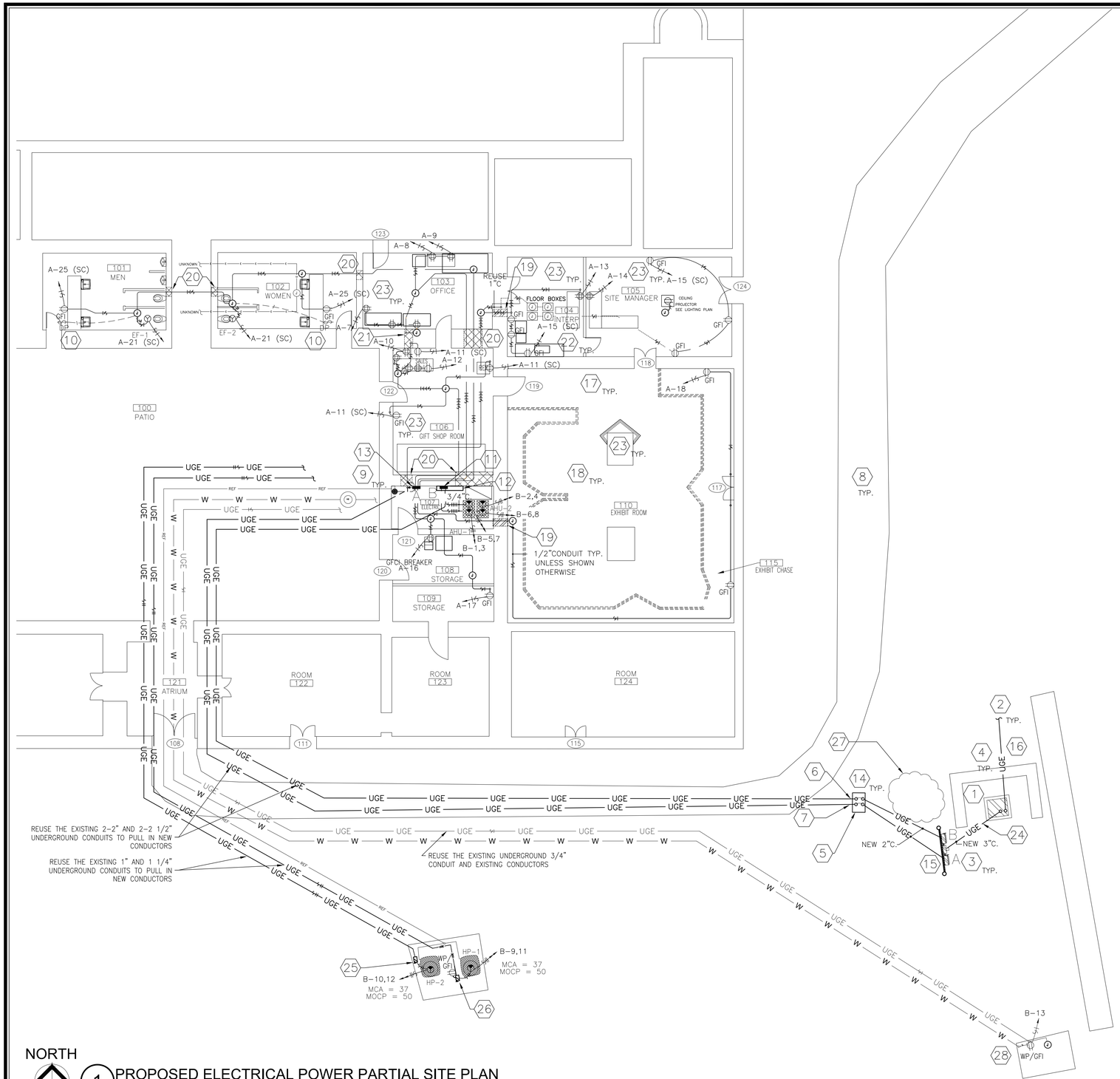
FORT LEATON STATE HISTORIC SITE
ELECTRICAL REPAIRS AND UPDATES
PROJECT: MR10415

CONSTRUCTION DRAWINGS

DATE: 04-29-2021
DESIGNED BY: CN
DRAWN BY: CN
REVIEWED BY: CN
REVISED:
REVISED:
REVISED:

SHEET TITLE
DEMOLITION ELECTRICAL POWER PARTIAL SITE PLAN

SHEET NUMBER
E2.2



NORTH

1 PROPOSED ELECTRICAL POWER PARTIAL SITE PLAN

SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APROXIMATIE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

SEE E1.1 FOR GENERAL NOTES

SEE TE5.1 FOR PROJECT SPECIFICATIONS

SEE E3.1 & E4.1 FOR SCHEDULES AND ONE-LINE DIAGRAMS

PROPOSED KEYED NOTES -

1. THE CONTRACTOR SHALL COORDINATE WITH (AEP) AMERICAN ELECTRIC POWER; THE UTILITY PROVIDER TO RELOCATE THE EXISTING 50 KVA PAD MOUNTED UTILITY TRANSFORMER, PRE-CAST TRANSFORMER PAD AND NEW ELECTRICAL SERVICE. ALL WORK SHALL BE PERFORMED PER THE UTILITY PROVIDERS REQUIREMENTS.

1.1. AEP WILL RELOCATE THE TRANSFORMER AND PRE-CAST PAD; CENTERED INSIDE THE ADOBE STRUCTURE WITH THE FRONT ACCESS DOORS OF THE TRANSFORMER FACING SOUTH WITH A 3 FOOT CLEARANCE ON THE OTHER THREE SIDES OF THE TRANSFORMER PER AEP'S CHECK LIST CRITERIA.

1.2. THE CONTRACTOR SHALL TRENCH, EXCAVATE AND EXTEND THE PRIMARY CONDUITS INTO THE TRANSFORMER ENCLOSURE PER THE UTILITY PROVIDERS REQUIREMENTS.

1.3. AEP WILL PROVIDE THE TERMINATIONS INSIDE THE TRANSFORMER AND PULL IN NEW PRIMARY CONDUCTORS.

1.4. THE CONTRACTOR SHALL PROVIDE A NEW ELECTRICAL SERVICE INCLUDING BUT NOT LIMITED TO A NEW SERVICE RACK, NEW UNDERGROUND SECONDARY CONDUITS AND CONDUCTORS, TRENCHING, BEDDING, BACKFILL, PULL STRINGS AND INCIDENTALS FOR INSTALLING THE REQUIRED EQUIPMENT AND ALL REQUIRED TERMINATIONS.

1.5. CONTRACTOR WILL PROVIDE THE SERVICE RACK AND METER CABINET; SEE SHEET E3.1/DETAIL#4 PROPOSED ONE-LINE RISER DIAGRAM.

1.6. CONTRACTOR SHALL COORDINATE WITH AEP PRIOR TO COMMENCING WORK OR ORDERING ELECTRICAL EQUIPMENT.

1.7. THE CONTRACTOR SHALL MAINTAIN UTILITY CLEARANCE REQUIREMENTS. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS SHOWN IN PROJECT WITH EXCEPTION TO THE PRIMARY CONDUCTORS AND TERMINATIONS INSIDE OF THE TRANSFORMER.

1.8. THE OWNER SHALL PAY ALL UTILITY PROVIDER ASSOCIATED FEES IN A SEPARATE CONTRACT.

1.9. THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH AEP CONTACT PERSON CLAY GIBSON, (325)-650-1323 OR (432)-729-4321 OUT OF THE MARFA OFFICE. THE CONTRACTOR SHALL FURNISH. COORDINATE, ADJUST AS NECESSARY AND INSTALL 4X8 SHEETS OF 3/4" CCX PLYWOOD AT A MINIMUM TO PREVENT THE UTILITY VEHICLES FROM DRIVING DIRECTLY OVER THE ROCK AND MORTAR PATHWAYS. AEP TEAM CONTACT INCLUDE ALEX JIMMEREZ 432-295-2337 AND SAMMY JIMENEZ 432-244-8109.

2. THE CONTRACTOR SHALL REWORK THE EXISTING UNDERGROUND ELECTRICAL PRIMARY CONDUITS AND PROVIDE ALL TRENCHING, BEDDING AND BACKFILL REQUIREMENTS PER THE UTILITY PROVIDERS REQUIREMENTS TO RE-ENERGIZE THE RELOCATED TRANSFORMER AND NEW ELECTRICAL SERVICE. THE UTILITY PROVIDER WILL NOT BE PROVIDING TRENCHING OR EXCAVATION, THIS REQUIREMENT FALLS ON THE CONTRACTOR.

3. THE CONTRACTOR SHALL REWORK THE EXISTING UTILITY PROVIDER TRANSFORMER AND PRE-CAST CONCRETE PAD PER THE UTILITY PROVIDER REQUIREMENTS AND FURNISH AND INSTALL A NEW METER SOCKET PER THE UTILITY PROVIDER REQUIREMENTS SEE SHEET E3.1/ DETAIL#4.

4. THE CONTRACTOR SHALL REMOVE THE LOOSE LAID CEDAR POST ROOF STRUCTURE TO ACHIEVE CLEARANCES TO RELOCATE THE TRANSFORMER WITH THE UTILITY PROVIDER BUCKET TRUCK. THE CONTRACTOR SHALL REINSTALL THE CEDAR POST TO THEIR ORIGINAL LOCATION AND ORIENTATION WITHOUT CAUSING DAMAGE TO THE STRUCTURE OR FINISH OF THE ADOBE STRUCTURE AND/OR CEDAR POST.

5. THE CONTRACTOR SHALL SET A NEW FLUSH WITH GRADE PULL BOX 36X36 PULL BOX 18 INCHES DEEP TO INTERSECT AND EXTEND TO THE EXISTING 2-2" AND 2-2 1/2" UNDERGROUND CONDUITS FROM THE BUILDING TO THE PROPOSED SERVICE DISCONNECTS. SEE SHEET E4.1/DETAIL#1 AND E4.1/DETAIL#2. ALL EXCAVATION SHALL BE MARKED 2 WEEKS IN ADVANCE SEE GENERAL NOTES AND COVER SHEET SCOPE OF WORK. PULL UP THE UNUSED SPARE UNDERGROUND CONDUITS INTO THE PULL BOX.

6. THE CONTRACTOR SHALL INTERSECT AND EXTEND THE EXISTING UNDERGROUND 2-2" CONDUITS UP INTO A NEW FLUSH WITH GRADE PULL BOX. SEE SHEET E4.1/DETAIL#1&2.

7. THE CONTRACTOR SHALL INTERSECT AND EXTEND THE EXISTING UNDERGROUND 2-2 1/2" CONDUITS UP INTO A NEW FLUSH WITH GRADE PULL BOX. SEE SHEET E4.1/DETAIL#1&2.

8. EXISTING ROCK AND MORTAR PATHWAY TO REMAIN UNDISTURBED. THE CONTRACTOR SHALL FURNISH. COORDINATE, ADJUST AS NECESSARY AND INSTALL 4X8 SHEETS OF 3/4" CCX PLYWOOD AT A MINIMUM TO PREVENT THE UTILITY VEHICLES FROM DRIVING DIRECTLY OVER THE ROCK AND MORTAR PATHWAYS. THE INTENT IS TO DISTRIBUTE THE WEIGHT OF EACH TIRE WHILE DRIVING DIRECTLY ONTO THE BRICK AND MORTAR PATHWAYS. THE CONTRACTOR WILL BE HELD RESPONSIBLE TO ENSURE THAT NO TIRE SHALL MAKE DIRECT CONTACT WITH THE MORTAR PATHWAY, IF THE UTILITY VEHICLE MAKES DIRECT CONTACT WITH THE PATHWAY AND DAMAGE OCCURS THE CONTRACTOR SHALL MAKE REPAIRS TO MATCH THE PRE-CONSTRUCTION CONDITIONS AT THE CONTRACTORS EXPENSE. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY PROVIDER AND THE OWNER DESIGNATED REPRESENTATIVE TO DIRECT AND GRANT ACCESS TO THE UTILITY PROVIDER THROUGH THE ACCESS GATE ON FARM MARKET ROAD 170 JUST EAST AND NORTH OF THE FORT.

9. PROVIDE NEW GROUNDING ELECTRODE CONDUCTORS AND GROUND RODS THRU THE EXISTING CONCRETE FOUNDATION. ELECTRICALLY TRACE THE EXISTING WATER LINES AND CONDUITS TO AVOID DAMAGING THE EXISTING UNDERGROUND CONDUITS AND WATERLINE.. SEE SHEET E3.1/DETAIL#4 AND ELECTRICAL SPECIFICATIONS GROUNDING REQUIREMENTS.

10. PROVIDE A RECESSED MOUNTED TOGGLE ON/OFF LIGHTING SWITCH INTERLOCK THE INTERIOR RESTROOM LIGHTS AND EXHAUST FAN. SEE THE LIGHTING PLAN SHEET E1.3.

11. REWORK AND EXTEND THE EXISTING 2-2" CONDUIT RISERS TO THE PROPOSED NEW LOAD CENTER "B" NEATLY ROUTE THE 2-2" CONDUITS OUTSIDE OF THE THE AUXILIARY GUTTER. PROVIDE CONDULET UNION BODIES AND REWORK ALL CONDUITS, CONDUCTORS AND CONDUIT ENTRIES AS REQUIRED TO RE-ENERGIZE ALL EXISTING LOADS. THE CONTRACTOR SHALL USE PRECAUTIONARY MEASURES TO PREVENT DAMAGE TO THE EXISTING ADOBE WALLS AND EXHIBITS. THE CONTRACTOR SHALL REWORK ALL RACEWAYS, CONDUIT ENTRIES, NIPPLES TO RE-ENERGIZE THE EXISTING LOADS. SEE SHEET E3.1/ DETAIL#4.

12. PROVIDE A NEW AUXILIARY GUTTER FOR LOAD CENTER "B" BRANCH CIRCUITS TO SHORTEN THE EXISTING 6X6X48 AUXILIARY SERVICE GUTTER. REWORK ALL RACEWAYS, CONDUIT ENTRIES, NIPPLES AND CONDUCTORS AS NECESSARY TO RE-ENERGIZE THE EXISTING LOADS AND REWORK ALL CONDUITS, CONDUCTORS AND CONDUIT ENTRIES AS REQUIRED TO RE-ENERGIZE ALL EXISTING LOADS AND REUSED CONDUCTORS. SEE SHEET E3.1 / DETAIL#4.

13. REWORK AND EXTEND THE 2-2 1/2" CONDUIT RISERS TO THE PROPOSED LOAD CENTER "A" NEATLY ROUTE THE 2-2 1/2" CONDUITS. PROVIDE CONDULET UNION BODIES AND REWORK ALL CONDUITS, AND CONDUIT ENTRIES AS REQUIRED TO RE-ENERGIZE ALL EXISTING LOADS. THE CONTRACTOR SHALL USE PRECAUTIONARY MEASURES TO PREVENT DAMAGE TO THE EXISTING ADOBE WALLS.

14. THE EXISTING PORTION OF THE UNDERGROUND CONDUITS NOT USED SHALL BE CUT BELOW GRADE AND ABANDONED IN PLACE THE EXISTING TRANSFORMER LOCATION. THE UNUSED CONDUITS ROUTED FROM THE BUILDING AT THE POINT OF INTERSECTION SHALL BE BROUGHT UP INTO THE FLUSH WITH GRADE PULL BOX.

15. PROVIDE A CHANNEL STRUT RACK AND RACK MOUNT THE PROPOSED NEW METER SOCKET AND MAIN SERVICE DISCONNECTS SEE SHEET E3.1/ DETAIL#4.

16. THE CONTRACTOR SHALL INTERSECT AND EXTEND THE EXISTING PRIMARY SERVICE SCHEDULE 80 CONDUITS AS REQUIRED TO TURN UP CONDUITS TO THE TRANSFORMER SHIFTED LOCATION AND ORIENTATION, SEE KEYED NOTE 1, THIS SHEET AND E3.1/DETAIL#4.

17. SEE SHEET E1.1 / GENERAL NOTE#12.

17.1. REPLACE ALL EXISTING BRANCH CIRCUIT CONDUCTORS AND ELECTRICAL DEVICES.

17.2. PLACE ALL ELECTRICAL DEVICES WITH UL-LISTED COMMERCIAL GRADE 20 AMP RATED OUTLETS.

18. MC CABLE IS PROHIBITED WITH THE EXCEPTION OF LOCATIONS INSIDE THE EXHIBIT DISPLAY WOOD STRUCTURE FOR THE LIGHTING CIRCUITS. AND FIXTURE WHIPS UP TO 6 FEET IN LENGTH. MC CABLE SHALL IS PROHIBITED FOR ALL OTHER CIRCUITS AND LOCATIONS,.

19. UNLESS A KEYED NOTE IN THE PLANS SPECIFICALLY CALLS OUT A NEW WALL PENETRATION, THE CONTRACTOR SHALL WORK WITH THE EXISTING WALL OPENINGS AND EXISTING CONDUIT PENETRATIONS TO ROUTE ALL NEW AND EXISTING CONDUITS. THE EXISTING HISTORIC ADOBE WALLS SHALL BE PROTECTED AND THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID DISTURBING THE ADOBE WALL STRUCTURE THIS SHALL BE THE TYPICAL APPROACH TO ALL RACEWAY INSTALLATIONS. THIS LOCATION IS AN EXCEPTION FOR THE CONTRACTOR WHO IS ALLOWED TO CREATE A NEW WALL PENETRATION WITH A CORE DRILL BIT JUST LARGE ENOUGH FOR THE 3/4" CONDUIT TO SLIDE THROUGH THE 1" DRILLED HOLE.

20. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID DISTURBING THE ADOBE WALL STRUCTURE THIS SHALL BE THE TYPICAL APPROACH TO ALL RACEWAY INSTALLATIONS. THIS LOCATION HAS A EXISTING OPENING IN THE EXISTING WALL FOR MULTIPLE CONDUITS TO PASS THROUGH.

21. EXISTING CONDUITS ENTERING THIS WALL ABOVE THE CEILING EXTEND POWER TO THE EXISTING IN WALL DEVICES AND LIGHT SWITCH. DO NOT CREATE NEW PENETRATIONS IN THIS SECTION OF THE WALL.

22. ALL BRANCH CIRCUITS IN ALL LOCATIONS UNLESS INDICATED OTHERWISE SHALL BE AT A MINIMUM 3#12 THHN/THWN-2 IN A 1/2" EMT CONDUIT WITH SOLID COPPER CONDUCTORS. CONTRACTOR MAY REUSE EXISTING CONDUITS IF THE CONDUIT FILL DOES NOT EXCEED THE 40% CONDUIT FILL. IN AREAS WHERE THE CIRCUITS CAN NOT BE CONCEALED OR HIDDEN FROM VIEW THEY SHALL BE SURFACE MOUNTED AND CONCEALED AS MUCH AS POSSIBLE AND NEATLY ROUTED IN EMT CONDUIT. SEE GENERAL NOTES FOR SECURING AND SUPPORTING CONDUIT REQUIREMENTS TO ALL EXISTING ADOBE WALLS AND STRUCTURES.

23. PAINT ALL EXPOSED CONDUIT TO MATCH THE COLOR OF THE WALLS AND CEILINGS IN THE OCCUPIABLE AREAS WITH THE EXCEPTION OF THE ELECTRICAL ROOM AND EXHIBIT CHASE. USE A COURSE HORSE BRUSH WITH A WATER SOLUBLE DEGREASER TO SCRUB AWAY THE OILY COATING ON THE CONDUIT AND PULL BOXES. WASH AWAY THE OIL FILM WITH A CLEAN DAMP RAG AFTER SCRUBBING THE CONDUIT. APPLY A SELF ETCHING PRIMER AND ALLOW TO CURE. APPLY A TWO THIN COATS OF ACRYLIC LAYTEX PAINT TO THE CONDUITS AND SURFACE MOUNTED PULL BOXES AND JUNCTION BOXES.

24. THE CONTRACTOR SHALL PROVIDE THE SECONDARY CONDUIT AND CONDUCTORS TO NEW METER SOCKET, SEE SHEET E3.1 / DETAIL# 4.

25. REPLACE THE EXISTING 60 AMP ENCLOSED BREAKER AND CONDUCTORS WITH A NEW NEMA-3R, 50 AMP RATED ENCLOSED BREAKER TO SERVE HP-2 AS A DISCONNECT MEANS. THE ENCLOSED BREAKER SHALL BE ORIENTED AND ARRANGED TO CREATE THE NEC-2020 REQUIRED WORKING SPACE. EXTEND NEW CONDUCTORS IN EXISTING RACEWAY AND AUX. GUTTER TO THE OUTDOOR UNIT AND TERMINATE CONDUCTORS WITH A 6 FOOT NON-METALLIC FLEXIBLE LIQUID TIGHT AC WHIP WITH 3/4"C W/2-#6 + 1-#10 (G) EA BRING BOTH EXISTING CONDUITS UP INTO THE BOTTOM OF THE ENCLOSURE.

26. REPLACE THE EXISTING 60 AMP ENCLOSED BREAKER WITH A NEW 70 AMP LOAD CENTER AND PULL IN 3-#6 + 1-#10 (G) NEW CONDUCTORS IN EXISTING RACEWAY AND AUX. GUTTER FROM NEW LOAD CENTER "B". REWORK THE EXISTING CONDUIT, EXTEND INTERSECT AND BRING THE EXISTING CONDUITS UP INTO THE NEW LOAD CENTER. PROVIDE A NEMA-3R, 70 AMP MAIN RATED LOAD CENTER WITH A 50/2 BREAKER TO SERVE THE HP-1 AS A DISCONNECT MEANS. PROVIDE A 20/1 BREAKER AND DEDICATED BRANCH CIRCUIT AND SERVICE OUTLET MOUNTED TO THE SIDE OF THE LOAD CENTER. THE LOAD CENTER SHALL BE ORIENTED AND ARRANGED TO CREATE THE NEC-2020 REQUIRED WORKING SPACE. THE SERVICE OUTLET SHALL BE A WEATHER RATED GFCI OUTLET WITH A IN-USE WEATHER RATED DIE-CAST ALUMINUM COVER. EXTEND NEW CONDUCTORS TO THE OUTDOOR UNIT AND TERMINATE CONDUCTORS WITH A 6 FOOT NON-METALLIC FLEXIBLE LIQUID TIGHT AC WHIP WITH 3/4"C W/2-#6 + 1-#10 (G) EA BRING BOTH EXISTING CONDUITS UP INTO THE BOTTOM OF THE LOAD CENTER.

27. PROVIDE TREE PROTECTION FOR THE MESQUITE TREE WITH WOOD PICKETS AT THE BASE OF TREE. DO NOT DISTURB THE MESQUITE TREE. ALL OTHER SHRUBS, BUSHES, CACTUS, SMALL PLANTS OTHER THAN WEEDS AND GRASS SHALL BE DUG UP AND REPLANTED IF IN THE PATH OF CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE WITH THE DESIGNATED OWNER REPRESENTATIVE TO IDENTIFY THE SPECIES AND TO RELOCATE EACH PLANT. EACH SPECIES SHALL BE REPLANTED PER INDUSTRY STANDARDS BASED ON THE ACTUAL SPECIES BEING REPLANTED.

28. REWORK EXISTING RACEWAY AND CONDUCTORS, SET NEW PULL BOX AND EXTEND RACEWAY AND EXITING CONDUCTORS TO PROVIDE A SURFACE MOUNTED RECEPTACLE ON THE EXISTING INTERIOR WELL HOUSE WALL AT 48" A.F.G.

TEXAS PARKS & WILDLIFE

STATE OF TEXAS
CARL OWEN NIX
93674
REGISTERED PROFESSIONAL ENGINEER
4/29/2021

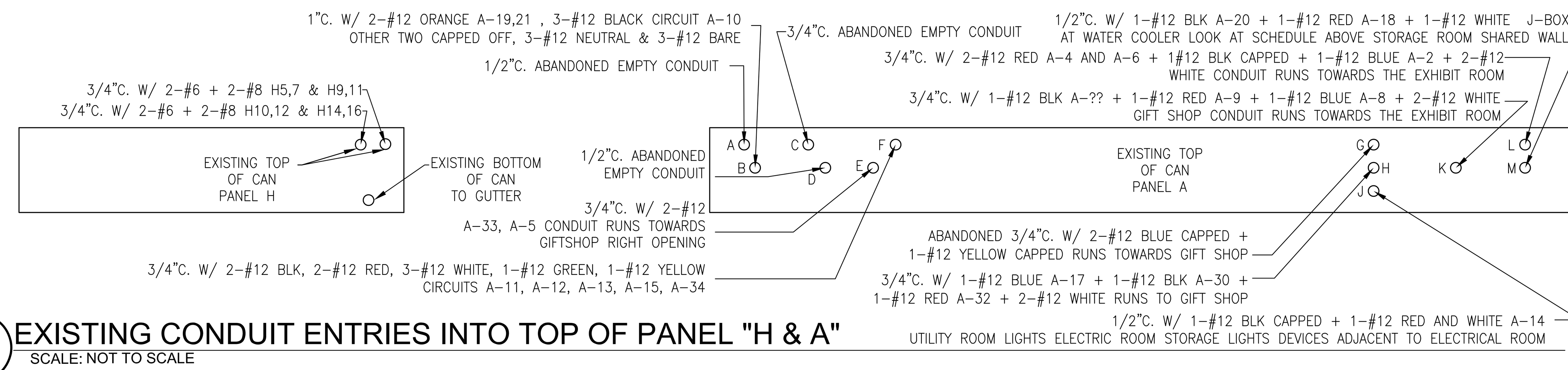
FORT LEATON STATE HISTORIC SITE
ELECTRICAL REPAIRS AND UPDATES
PROJECT: MR10415

CONSTRUCTION DRAWINGS

DATE: 04-29-2021
DESIGNED BY: CN
DRAWN BY: CN
REVIEWED BY: CN
REVISED:
REVISED:
REVISED:

SHEET TITLE
PROPOSED ELECTRICAL POWER PARTIAL SITE PLAN

SHEET NUMBER
E2.3



1 EXISTING CONDUIT ENTRIES INTO TOP OF PANEL "H & A"

SCALE: NOT TO SCALE

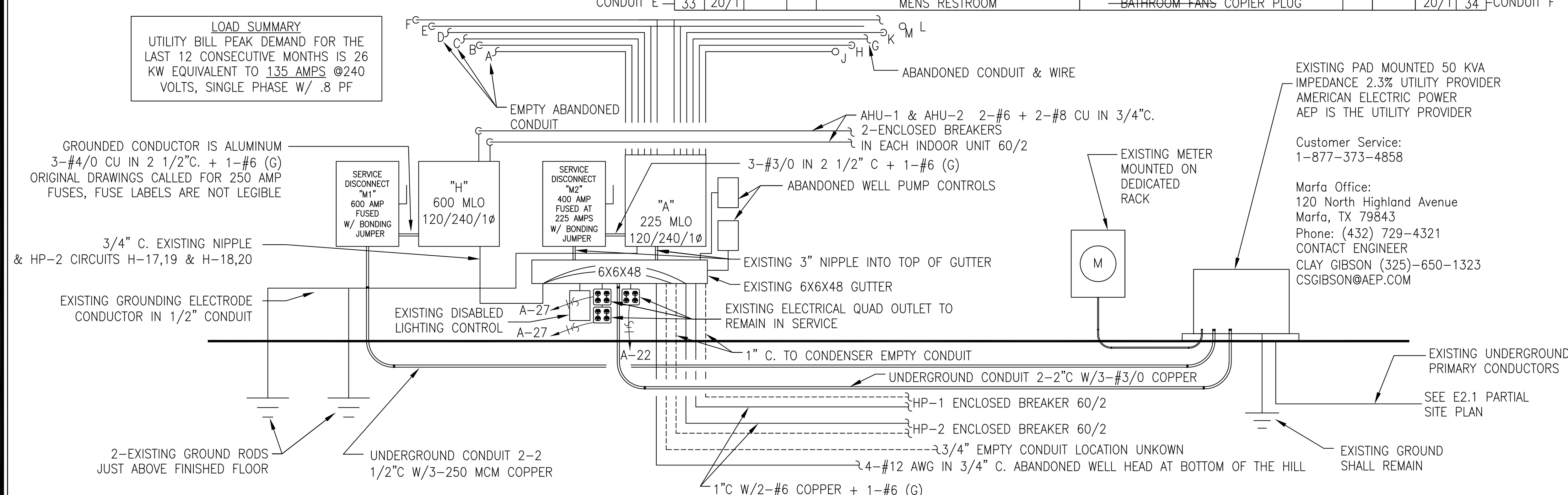
EXISTING PANEL H 600 MLO / 32 POLE
120/240/1-PHASE

CRT#	BKR/P	WIRE	GRD	ITEM DESCRIPTION	ITEM DESCRIPTION	GRD	WIRE	BKR/P	CRT#
1 3	30/2			SPARE	SPARE			30/2	2 4
5 7	60/2	2-#6		AHU-2	SPARE			60/2	6 8
9 11	50/2	2-#8		AHU-2	AHU-1		2-#8	50/2	10 12
13 15	50/2			SPARE	AHU-1		2-#6	50/2	14 16
17 19	70/2	2-#6		HP-1	HP-2		2-#6	70/2	18 20
21	SPACE			SPACE	SPACE			SPACE	22
23	SPACE			SPACE	SPACE			SPACE	24
25	SPACE			SPACE	SPACE			SPACE	26
27	SPACE			SPACE	SPACE			SPACE	28
29	SPACE			SPACE	SPACE			SPACE	30
31	SPACE			SPACE	SPACE			SPACE	32

EXISTING PANEL A 225 MLO / 42 POLE
120/240/1-PHASE

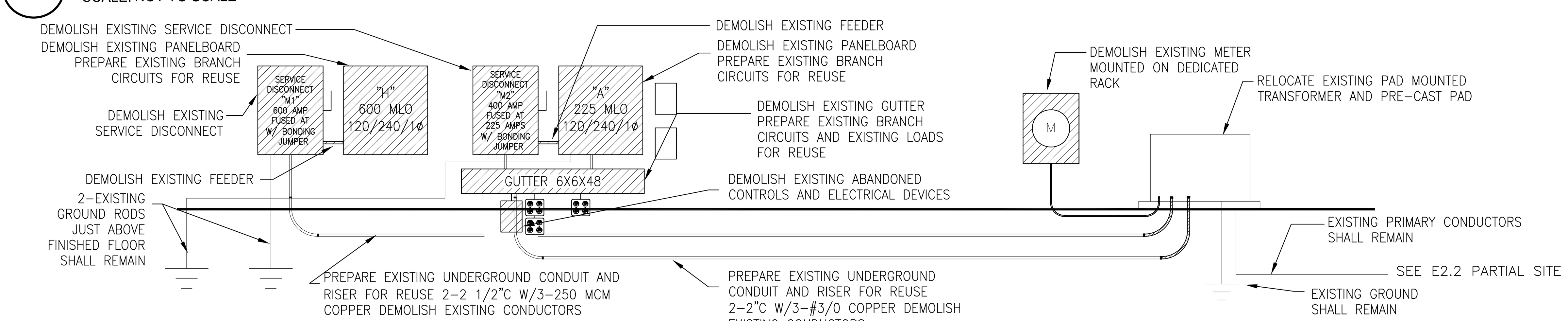
	CRT#	BKR/P	WIRE	GRD	ITEM DESCRIPTION	ITEM DESCRIPTION	GRD	WIRE	BKR/P	CRT#	
CONDUIT ???	1	20/2			~~BLOWER~~	MUSEUM LIGHTS SOUTH WALL			20/1	2	CONDUIT L
	3				~~BLOWER~~ ?????	MUSEUM LIGHTS NORTH WALL AND COLUMN			20/1	4	CONDUIT L
CONDUIT E	5	20/1			WOMENS RESTROOM	MUSEUM LIGHTS SOUTH END OF EAST WALL			20/1	6	
	7	20/1			MUSEUM LIGHTS NORTH END OF EAST WALL	MUSEUM LIGHTS			20/1	8	CONDUIT K
CONDUIT K	9	20/1			SPARE ????	AV RM SOUTH WALL OUTLETS			20/1	10	CONDUIT B
CONDUIT F	11	20/1			MUSEUM LIGHTS WEST WALL	MANRIQUEZ PLUGS			20/1	12	CONDUIT F
CONDUIT F	13	20/1			FRONT DESK STORE PLUGS AND LIGHT	UTILITY ROOM LIGHTS			20/1	14	CONDUIT J
	15	20/1			STORE LIGHTS IN DISPLAY CASE	SPARE			SPACE	16	
CONDUIT H	17	20/1			RESTROOM FANS	WATER COOLER LIGHTS IN ELECTRICAL RM			20/1	18	CONDUIT M
CONDUIT B	19	20/1			AV RM 4FLR PLUGS NORTH SIDE CORNER	UTILITY ROOM RECEPTACLES			20/1	20	CONDUIT M
CONDUIT B	21	20/1			AV RM MIDDLE 2 PLUGS FLOOR PLUGS	ELEC. RM PLUGS UNDER GUTTER			20/1	22	NIPPLE/GUTTER
	23	20/2			~~DEAD~~ ?????	~~TRANSFORMER~~ ?????			20/1	24	NIPPLE/GUTTER
NIPPLE/GUTTER	25	20/1			~~WATER WELL~~	~~AIR CON. COMPRESSOR~~			SPACE	26	
NIPPLE/GUTTER	27	20/1			ELEC. RM PLUGS / ~~WATER WELL~~	~~AIR CON. COMPRESSOR~~			SPACE	28	
	29	20/1			????? ~~AIR CON. COMPRESSOR~~	OFFICE LIGHTS			20/1	30	CONDUIT H
	31	SPACE			~~AIR CON. COMPRESSOR~~	OFFICE RECEPTACLE (PLUG BEHIND FRONT DESK)			20/1	32	CONDUIT H
CONDUIT E	33	20/1			MENS RESTROOM	~~BATHROOM FANS~~ COPIER PLUG			20/1	34	CONDUIT F

LOAD SUMMARY
UTILITY BILL PEAK DEMAND FOR THE LAST 12 CONSECUTIVE MONTHS IS 26 KW EQUIVALENT TO 135 AMPS @240 VOLTS, SINGLE PHASE W/ .8 PF



2 EXISTING ONE-LINE RISER DIAGRAM

SCALE: NOT TO SCALE



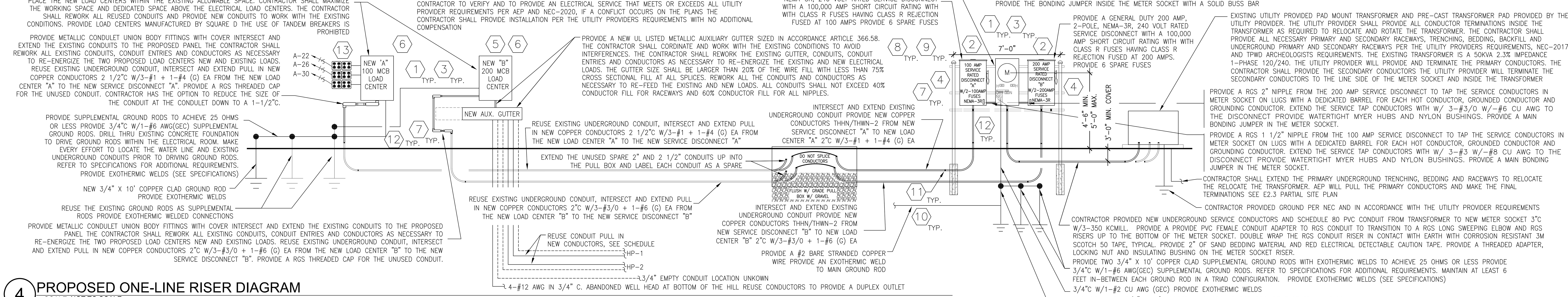
3 DEMOLITION ONE-LINE RISER DIAGRAM

SCALE: NOT TO SCALE

THE CONTRACTOR SHALL WORK AND COORDINATE INTERFERENCES WITH THE EXISTING CONDITIONS TO PLACE THE NEW LOAD CENTERS WITHIN THE EXISTING ALLOWABLE SPACE. CONTRACTOR SHALL MAXIMIZE THE WORKING SPACE AND DEDICATED SPACE ABOVE THE ELECTRICAL LOAD CENTERS. THE CONTRACTOR SHALL REWORK ALL REUSED CONDUITS AND PROVIDE NEW CONDUITS TO WORK WITH THE EXISTING CONDITIONS. PROVIDE LOAD CENTERS MANUFACTURED BY SQUARE D THE USE OF TANDEM BREAKERS IS PROHIBTED

NOTE TO CONTRACTOR: CONTRACTOR SHALL REFERENCE AND COORDINATE WITH THE UTILITY PROVIDERS REQUIREMENTS SOME REQUIREMENTS ARE SHOWN TO ASSIST THE CONTRACTOR, IT IS UP TO THE CONTRACTOR TO VERIFY AND TO PROVIDE AN ELECTRICAL SERVICE THAT MEETS OR EXCEEDS ALL UTILITY PROVIDER REQUIREMENTS PER AEP AND NEC-2020, IF A CONFLICT OCCURS ON THE PLANS THE CONTRACTOR SHALL PROVIDE INSTALLATION PER THE UTILITY PROVIDERS REQUIREMENTS WITH NO ADDITIONAL COMPENSATION

CONTRACTOR PROVIDED RINGLESS METER SOCKET WITH A JAW RELEASE LEVER BYPASS UL- LISTED 320 CONTINUOUS AMP, 1-PHASE 4 TERMINAL UNDERGROUND SERVICE METER SOCKET WITH PER AEP PUBLISHED REQUIREMENTS MANUFACTURED BY MILLBANK U1797-O-K3L-K2L-BLG. PROVIDE LUGS WITH A DEDICATED BARREL FOR EACH CONDUCTOR THAT TERMINATES INSIDE THE METER SOCKET. PROVIDE THE BONDING JUMPER INSIDE THE METER SOCKET WITH A SOLID BUSS BAR



4 PROPOSED ONE-LINE RISER DIAGRAM

SCALE: NOT TO SCALE

KEYED NOTE "⬡"

1. PROVIDE NEW IDENTIFICATION NAMEPLATE LABELS FOR ALL NEW AND EXISTING ELECTRICAL PANELS, LOAD CENTERS AND SERVICE AND EQUIPMENT DISCONNECTS AND JUNCTION BOXES. REFER TO ELECTRICAL PLAN SHEETS E1.3, E2.3, E3.1 AND SHEET E4.1 TO IDENTIFY ALL ELECTRICAL EQUIPMENT LOCATIONS. SEE IDENTIFICATION LABEL REQUIREMENTS ON SHEET E3.1.
2. PROVIDE A NAMEPLATE LABEL WITH THE MAXIMUM FAULT CURRENT ON ALL ELECTRICAL SERVICE ENCLOSURES.
3. FURNISH AND INSTALL ADHESIVE OSHA SAFETY SIGNS ON THE FRONT OF ALL NEW AND EXISTING LOAD CENTERS, PANELBOARDS, AND DISCONNECTS ON THE FRONT OF THE ENCLOSURE. TWO BILINGUAL SIGNS THAT ARE PRINTED IN ENGLISH AND SPANISH ARE REQUIRED. ONE SIGN SHALL READ "DANGER! HIGH VOLTAGE" AND THIS SIGN SHALL HAVE A WHITE BACKGROUND WITH RED AND BLACK LETTERING, BE AT LEAST 3-1/2" WIDE BY 5" HIGH, BE SUITABLE FOR OUTDOOR LOCATIONS AND BE EQUAL TO SETON #07989. THE SECOND SIGN SHALL BE AN ARC FLASH WARNING SIGN AND THIS SIGN SHALL HAVE A WHITE BACKGROUND WITH ORANGE AND BLACK LETTERING, BE AT LEAST 6" WIDE BY 3-1/2" HIGH, BE SUITABLE FOR OUTDOOR LOCATIONS, AND SHALL BE EQUAL TO SETON #84624 OR #94311. REFER TO ELECTRICAL PLAN SHEET E1.3, E2.3, E4.1 AND ONE-LINE DIAGRAM SHEET E3.1 TO IDENTIFY ALL ELECTRICAL EQUIPMENT LOCATIONS.
4. CONTRACTOR SHALL PROVIDE A UL-LISTED TYPE 1 SPD, SURGE PROTECTIVE DEVICE AT EACH ELECTRICAL SERVICE DISCONNECT SHOWN ON THE RISER DIAGRAM. THE PROVIDED SURGE PROTECTIVE DEVICES SHALL BE A SQUARE D SDSA1175 TYPE 1 SURGE PROTECTIVE DEVICE WITH LED OPERATION STATUS INDICATION. INSTALL THE SURGE PROTECTIVE DEVICES MOUNTED TO EACH DISCONNECT ENCLOSURE WITH A DEDICATED BARREL LUG CONNECTION FOR EACH SURGE PROTECTOR LEAD. THE HIGH ENERGY SUPPRESSION CIRCUITRY SHALL BE RATED AS A TYPE 1 RATED DEVICE DESIGNED TO BE LOCATED AT ANY POINT IN THE ELECTRICAL SYSTEM WITH OR WITHOUT A OVER CURRENT PROTECTION DEVICE. TERMINATE THE SURGE PROTECTOR LEADS TO THE LOAD SIDE OF EACH SERVICE DISCONNECT LUG. PROVIDE 2-BARREL LUGS ON THE LOAD SIDE OF EACH SERVICE DISCONNECT. THE SURGE PROTECTIVE DEVICE SHALL HAVE A SHORT CIRCUIT CURRENT RATING EQUAL TO OR GREATER THAN 25,000 AMPS AND A SURGE CURRENT RATING EQUAL TO 36,000 AMPS PER LEG. PROVIDE CURRENT LIMITING FUSE CLASS R FUSES IN EACH SERVICE DISCONNECT.
5. CONTRACTOR SHALL PROVIDE A UL-LISTED TYPE 2 SPD, SURGE PROTECTIVE DEVICE IN EACH EXISTING AND PROPOSED ELECTRICAL LOAD CENTER AND PANELBOARD SHOWN ON THE RISER DIAGRAM. THE PROVIDED SURGE PROTECTIVE DEVICES SHALL BE MOUNTED TO THE ENCLOSURE WITH A CIRCUIT BREAKER TO PROVIDE OVERLOAD PROTECTION PER THE MANUFACTURERS INSTRUCTIONS. THE SURGE PROTECTIVE DEVICE SHALL HAVE SURGE CURRENT RATING EQUAL TO 50,000 AMPS PER LEG. SURGE PROTECTIVE DEVICE SHALL HAVE A LED OPERATION STATUS INDICATION.
6. THE CONTRACTOR SHALL ALSO PROVIDE A SURGE CAPACITOR (DELTA # CA-302RG W/ SEPARATE GROUND LEAD OR EQUAL) ON THE BOTTOM OF THE NEW LOAD CENTER ENCLOSURE. TERMINATE THE LEADS FROM EACH SURGE CAPACITOR DEVICE TO A DEDICATED NEW CIRCUIT BREAKER IN THE LOAD CENTER PER THE MANUFACTURERS INSTRUCTIONS.
7. SUPPORT AND SECURE ALL CONDUIT AT EACH ENCLOSURE.
8. PROVIDE 2 QTY 2" RGS POST. SET EACH POST 2 FEET DEEP IN 4,000 PSI SACKCRETE PER PEC REQUIREMENTS WRAP POST IN CONTACT WITH CONCRETE OR EARTH WITH 3M SCOTCH 50 TAPE. (TYPICAL FOR BOTH POST) SPAN POST TO POST WITH 1-5/8" GALVANIZED CHANNEL STRUT IN 3 PLACES TO SUPPORT ENCLOSURES AND CONDUITS. GROUND SMOOTH AND PAINT CUTS WITH COLD GALVANIZING PAINT, 2" MAX EXTENSION TYPICAL AND PROVIDE RGS CAPS ON EACH POST. STOP CONCRETE AT BOTTOM OF CONCRETE FOUNDATION.
9. PROVIDE A WATERTIGHT MYER HUBS OR WET LISTED LOCKING NUTS AND NYLON BUSHING ON ALL ENCLOSURES.
10. PROVIDE A BARE, #2 AWG COPPER WIRE IN ONE CONTINUOUS LENGTH CAD WELDED TO THE GROUND ROD TO HELP ACHIEVE 25 OHMS OR LESS. THE BARE COPPER WIRE SHALL BE RUN UP TO APPROXIMATELY 50 FEET LACED IN THE TRENCH. ROUTED AWAY FROM ELECTRICAL SERVICE TOWARDS THE EACH GROUND ROD OR IN TRENCH WITH UNDERGROUND CONDUITS. DO NOT BRING THIS WIRE UP INTO ANY PULL BOX OR ENCLOSURE. THIS WIRE WILL ONLY BE CONNECTED TO THE MAIN GROUND ROD. THE PURPOSE OF THIS WIRE IS TO PROVIDE A LOW RESISTANCE GROUND PATH IN ADDITION TO THE GROUND ROD. PROVIDE A EXOTHERMIC WELDED CONNECTION. SEE SHEET E5.1 ELECTRICAL SPECIFICATIONS AND DIVISION 31 EARTHWORK SPECIFICATIONS.
11. PROVIDE PVC FEMALE CONDUIT ADAPTER TO RGS CONDUIT FOR ALL UNDERGROUND CONDUIT TO TRANSITION TO RGS ELBOWS AND RGS RISERS UP TO THE BOTTOM OF EACH ENCLOSURE, TYPICAL.
12. PROVIDE RGS ELBOWS AND RISERS UP TO THE BOTTOM OF EACH ENCLOSURE. DOUBLE WRAP ALL RGS CONDUIT IN CONTACT WITH EARTH OR CEMENT WITH CORROSION RESISTANT 3M SCOTCH 50 TAPE, TYPICAL.
13. PROVIDE 12 QTY NEW GFCI DUPLEX 20 AMP OUTLETS.

SEE E1.1 FOR GENERAL NOTES

SEE TE5.1 FOR PROJECT SPECIFICATIONS

SEE E4.1 FOR SCHEDULES

ELECTRICAL AND TECHNOLOGY SYMBOLS AND LEGEND

THE DRAWING PLAN SET USES THE ELECTRICAL SYMBOLS AND LEGEND TO DEFINE QUALITY CONTROL, TERMINATIONS, SWITCHES, RECEPTACLES, LIGHTING CONTROLS, LOAD CENTERS, ELECTRICAL EQUIPMENT, ABBREVIATIONS AND LINE TYPES THAT MAY BE CALLED OUT IN THE DRAWING PLAN SET. REFER TO ALL ELECTRICAL SHEETS TO IDENTIFY ALL REQUIREMENTS.

- DUPLEX RECEPTACLE
- QUAD RECEPTACLE
- DISCONNECT SWITCH
- DISTRIBUTION PANEL OR LOAD CENTER
- (J) JUNCTION BOX
- 120V 1PH CONNECTION
- 208V 1PH CONNECTION
- 208V 3PH CONNECTION
- 240V 1PH CONNECTION
- 240V 3PH CONNECTION
- (PC) TWIST LOCK PHOTO - CELL
- (MS) SELF CONTAINED PASSIVE INFRARED LIGHTING MOTION SENSOR CONTROL
- \$ 20 AMP, WALL SWITCH
- \$3 20 AMP, 3-WAY WALL SWITCH
- \$DP 20 AMP, DOUBLE POLE SINGLE, THROW WALL SWITCH
- \$M 16 AMP, 1 HP RATED FRACTIONAL HORSEPOWER MANUAL MOTOR STARTER W/ THERMAL OVERLOADS
- LIGHT FIXTURE
- EXIT SIGN
- EMERGENCY LIGHTING FIXTURE
- PP MODULAR FURNITURE POWER POLE
- FPP ELECTRICAL CONTRACTOR PROVIDED FREE STANDING POWER POLE WITH TWO RECESSED RECEPTACLES AND ONE STANDARD 2-DATA OUTLET

BRANCH CIRCUIT & WIRE NOTATION

A1-10 (SC) — SPLIT CIRCUIT; PANEL AND CIRCUIT NUMBERS; EQUIPMENT GROUND; ISOLATED GROUND; SWITCH LEG; HOT; NEUTRAL

LISTED ABBREVIATIONS

BOF	BOTTOM OF FIXTURE
GFI	GROUND FAULT CIRCUIT INTERRUPTER BREAKER OR OUTLET
WP	IN-USE WEATHERPROOF DEVICE OR ENCLOSURE
RGS	RIGID GALVANIZED STEEL CONDUIT
PVC	POLY VINYL CHLORIDE CONDUIT
EMT	ELECTRICAL METALLIC TUBING CONDUIT
AFR	ABOVE FINISHED ROOF
AFF	ABOVE FINISHED FLOOR
BFG	BELOW FINISHED GRADE
AFG	ABOVE FINISHED GRADE
SCH.	SCHEDULE
TYP.	TYPICAL

—— UGE ——	UNDERGROUND ELECTRICAL
—— UVD ——	UNDERGROUND VOICE DATA
—— UGT ——	UNDERGROUND TELEPHONE SERVICE
—— REF ——	UNDERGROUND REFRIGERANT LINES
—— W ——	UNDERGROUND WATER LINE

MAXIMUM FAULT CURRENT / REQUIRED NAMEPLATE

PROVIDE LABEL STATING EQUIPMENT SHALL BE DE-ENERGIZED, PRIOR TO PERFORMING MAINTENANCE OR REMOVAL OF DEAD FRONT. PROVIDE LABEL STATING MAXIMUM FAULT CURRENT WITH DATE.

MAXIMUM SHORT CIRCUIT CURRENT BASED ON POINT TO POINT CALCULATIONS. ASSUMING INFINITE BUSS WITH ALL PHASES BOLTED TOGETHER AND AT THE MAXIMUM UL LISTED TOLERANCE OF ± 10% IMPEDANCE TOLERANCE

EXISTING TRANSFORMER IS ASSUMING A 50 KVA / 120/240 1Ø / ASSUMING 2.3% TRANSFORMER IMPEDANCE.

SINGLE PHASE TRANSFORMER FULL LOAD CURRENT = TRANSFORMER KVA*1000/VOLTAGE = 50*1000/240= 208 AMPS.

SHORT CIRCUIT CURRENT (ISC LINE TO LINE)= TRANSFORMER FULL LOAD CURRENT / TRANSFORMER IMPEDANCE (Z).= 208/.023 = 9,043 AMPS AT TRANSFORMER LUGS.

ASSUMING NO SIGNIFICANT MOTOR CONTRIBUTIONS. ASSUME MAXIMUM WORST CASE FULL LOAD AMPS OF TRANSFORMER FAULT CURRENT = 208 AMPS MULTIPLY BY FOUR = 208*4 =832 AMPS

ASSUMING NO GENERATOR CONTRIBUTION

MAXIMUM WORST CASE FAULT CURRENT WITH MOTOR CONTRIBUTIONS AND ASSUMED NO GENERATOR CONTRIBUTIONS = 9,043 + 832 = 9,875 AMPS.

THE CONTRACTOR SHALL PROVIDE A NAMEPLATE ON THE ELECTRICAL DISCONNECTS THAT STATES THE AVAILABLE FAULT CURRENT IS 9,875 AMPS.

IDENTIFICATION LABEL REQUIREMENTS

NOTE:
PROVIDE AN ENGRAVED, LAMINATED NAMEPLATE FOR EACH NEW OR EXISTING DISCONNECT, PANELBOARD, CIRCUIT BREAKER ENCLOSURE, TRANSFORMER, OR OTHER ELECTRICAL ENCLOSURE. STATE THE DEVICES NAME, VOLTAGE, & PHASE ON THE NAMEPLATE. IF REQUIRED, STATE THAT THE DEVICE IS FED FROM THE EMERGENCY DISTRIBUTION SYSTEM. ALSO, STATE WHERE THE DEVICE FEEDS FROM.

FOR EXAMPLE, LOAD CENTER H, NAMEPLATE WOULD READ:
LOAD CENTER H
120/240 VOLT, 1-PHASE
FEEDS FROM SERVICE DISCONNECT H1

FOR RECEPTACLE FACE PLATES, USE SMALL PRINTED LABELS OR OTHER SIMILAR LABELING WITH IDENTIFYING INFORMATION.

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PROJECT: MR10415

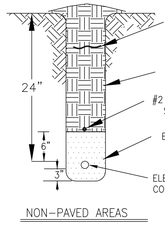
CONSTRUCTION DRAWINGS

DATE: 04-29-2021
DESIGNED BY: CN
DRAWN BY: CN
REVIEWED BY: CN
REVISED:
REVISED:
REVISED:

SHEET TITLE
ELECTRICAL ONE-LINE RISERS SYMBOLS LEGEND AND DETAILS

SHEET NUMBER
E3.1

TRENCHING NOTES



NON-PAVED AREAS

1. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS TOOLS AND EQUIPMENT NECESSARY TO ACCOMPLISH THE REQUIRED TRENCHING. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES PRIOR TO STARTING EXCAVATION. COSTS OF REPAIRING DAMAGE TO EXISTING UNDERGROUND UTILITIES OR FACILITIES SHALL BE BORNE BY THE CONTRACTOR. CONTRACTOR SHALL CALL 811 BEFORE YOU DIG, TO ASSIST IN AVOIDING EXISTING UNDERGROUND UTILITIES.
2. TRENCHES SHALL BE EXCAVATED TO THE DEPTHS AND LINES PLACED AS SHOWN ON THESE DETAILS. THE WIDTH OF ANY TRENCHES SHALL BE BETWEEN SIX AND TWELVE INCHES. WHERE ROOTS OR STUMPS ARE ENCOUNTERED THEY SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. LARGE ROOTS SHALL BE CUT OFF FLUSH WITH THE SIDES OF THE TRENCH.
3. THE CONTRACTOR SHALL STAKE EACH PROPOSED ROUTE IN ADVANCE.
4. BEDDING MATERIAL SHALL BE BEDDED AROUND ALL CONDUITS & WATER LINES. THE BEDDING MATERIAL SHALL BE A NATIVE SAND OR OTHER SUITABLE NATIVE BEDDING MATERIAL THAT PASSES A 3/8" SIEVE TEST. THE COMPACTED EARTH FILL MATERIAL SHALL BE FREE OF MUD, CLAY LUMPS, VEGETATION, DEBRIS AND ROCKS EXCEEDING 6" IN IN THEIR GREATEST DIMENSION. THE "FINES" RESULTING FROM THE USE OF A TRENCHING MACHINE MAY ONLY BE USED AS COMPACTED EARTH BACKFILL UNLESS SPECIFICALLY APPROVED BY THE TPWD ENGINEER.
5. THE BEDDING MATERIAL SHALL BE WATER-TAMPED AROUND ALL LINES BY FLOODING THE TRENCH WITH WATER AND ALLOWING THE MATERIAL TO SETTLE IN AS THE WATER RECEDES AND IS ABSORBED. AFTER THIS FLOODING THE BEDDING MATERIAL DEPTHS ABOVE AND BELOW THE LINES SHALL STILL ADHERE TO THE DETAIL DIMENSIONS. THE COMPACTED EARTH BACKFILL SHALL BE COMPACTED IN 6" LIFTS. HAND TAMPING SHALL BE DONE WITH A MECHANICAL TAMPER. THE TOP OF THE BACKFILLED TRENCH SHALL BE SLIGHTLY MOUNDED ABOVE THE SURROUNDING GRADE TO ALLOW FOR SETTLEMENT.
6. ELECTRICAL MARKING TAPE SHALL BE BURIED AT THE DEPTHS SHOWN IN TRENCHES CARRYING ELECTRIC CONDUIT.
7. WHERE MORE THAN ONE CONDUIT IS INSTALLED IN A TRENCH, THE CONDUITS SHALL BE SEPARATED BY A MINIMUM OF 2" OF BEDDING MATERIAL AND THE TRENCH DEPTH SHALL BE ADJUSTED AS NECESSARY TO ACCOMMODATE MULTIPLE CONDUITS.
8. CONTRACTOR SHALL TRENCH UNDER ALL KNOWN UNDERGROUND UTILITIES CROSSINGS BY HAND WITHOUT DAMAGING EXISTING PIPES AND CONDUITS. CONTRACTOR SHALL INSTALL CONDUITS UNDER THE EXISTING PIPING TO MEET MINIMUM COVER. CONTRACTOR SHALL FIELD INVESTIGATE PRIOR TO PLACING BID.
9. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS TOOLS AND EQUIPMENT NECESSARY TO ACCOMPLISH THE REQUIRED EXCAVATION AND TRENCHING. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES PRIOR TO STARTING EXCAVATION OR TRENCHING. COSTS OF REPAIRING DAMAGE TO EXISTING UNDERGROUND UTILITIES OR FACILITIES SHALL BE REPAIRED AT CONTRACTORS EXPENSE. CONTRACTOR IS ENCOURAGED TO CALL 811 DIG PRIOR TO COMMENCING ANY WORK.
10. TRENCHES SHALL BE EXCAVATED TO THE DEPTHS AND LINES PLACED AS SHOWN ON THESE DETAILS. THE WIDTH OF ANY TRENCHES SHALL BE BETWEEN SIX AND TWELVE INCHES. WHERE ROOTS OR STUMPS ARE ENCOUNTERED THEY SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. LARGE ROOTS 3 INCHES IN DIAMETER AND LARGER SHALL REQUIRE OWNERS PERMISSION TO CUT. THE CONTRACTOR SHALL STAKE EACH PROPOSED ROUTE FOR OWNERS REPRESENTATIVE FINAL APPROVAL PRIOR TO TRENCHING OR BORING. IT IS PROHIBITED TO CUT EXISTING PAVEMENT OR CONCRETE IN THIS PROJECT THAT IS TO REMAIN, UNLESS OTHERWISE DIRECTED.
11. ANY EARTHWORK MATERIALS BROUGHT INTO THE PARK FROM OUTSIDE OF THE PARK SHALL ONLY BE PLACED OR STORED ON PAVED SURFACES OR OTHER AREAS APPROVED BY TPWD PERSONNEL. ALL IMPORTED SOILS SHALL BE FREE OF CULTURAL RESOURCES (E.G. ARTIFACTS, BUILDING MATERIALS, ETC.). ALL IMPORTED SOILS MUST BE APPROVED BY THE OWNER PRIOR TO DELIVERY.
12. TRASH AND DEBRIS SHALL BE REMOVED FROM THE PARK PROPERTY.
13. SOIL PILES CREATED BY THE EARTHWORK OPERATIONS SHALL ONLY BE PLACED OR STORED ON PAVED SURFACES OR OTHER AREAS APPROVED BY TPWD PERSONNEL. ANY EXCESS SOIL AND TOPSOIL FROM EARTHWORK OPERATIONS THAT IS NOT NEEDED IN THE PARK SHALL BE DISPOSED OF AT AN OFFSITE LOCATION BY THE CONTRACTOR, UNLESS DIRECTED OTHERWISE BY A DESIGNATED OWNER REPRESENTATIVE.
14. DUE TO THE SENSITIVE HISTORIC NATURE OF THIS SITE, TRENCHING WILL BE MONITORED BY A DESIGNATED OWNER REPRESENTATIVE TO MONITOR ALL TRENCHING AND EXCAVATION. ALL TRENCHING AND EXCAVATION EFFORTS SHOULD STOP IF SENSITIVE ARTIFACTS ARE DISCOVERED.

AS AN ALTERNATE TRENCH METHOD IF SOLID ROCK OR LARGE ROCK SHELVES ARE ENCOUNTERED AT A SHALLOW DEPTH THAT WILL NOT ALLOW THE CONDUIT TO BE PLACED AT 24" DEEP WITHOUT USING A ROCK SAW:

1. THE CONTRACTOR MAY INSTALL PVC CONDUIT AT A MINIMUM OF 8" DEEP AND CAP THE CONDUIT WITH 4" OF RED CONCRETE. LAY THE MARKING TAPE ON TOP OF THE CONCRETE CAP. BEDDING MATERIAL WILL STILL BE REQUIRED UNDER THE PVC CONDUIT.

OR:

2. THE CONTRACTOR MAY INSTALL RIGID METAL CONDUIT AT A MINIMUM OF 8" DEEP AND CORROSION PROTECT THE CONDUIT BY WRAPPING THE CONDUIT WITH CORROSION PROTECTION TAPE ALONG THE CONDUIT'S ENTIRE LENGTH OR BY USING PVC COATED RIGID METAL CONDUIT. BEDDING MATERIAL WILL STILL BE REQUIRED AS NOTED ON THE DETAIL. PLACE THE MARKING TAPE ON TOP OF THE BEDDING MATERIAL.

ANY PVC CONDUIT BURIED SHALLOWER THAN 18" WILL REQUIRE A 4" RED CONCRETE CAP.

THE TRENCH GROUND WIRE DESCRIBED ABOVE SHALL NOT BE INSTALLED IN THESE SHALLOW TRENCHES. PLACE THE TRENCH GROUND WIRE IN AN ALTERNATE TRENCH THAT IS INSTALLED FROM THE SAME SERVICE POINT.

1 TRENCHING & EXCAVATION DETAILS & NOTES-ELECTRICAL
SCALE: NOT TO SCALE

ELECTRICAL LOAD ANALYSIS

LIGHTING LOAD @ 125% (VA)			**15,313**
AREA (SQ FT)	3,500	x3.5 =	12,250
CONNECTED LIGHT LOAD VA			3,744
LIGHTING VA			12,250
RECEPTACLE LOAD (VA)			**10,370**
CONNECTED RECPT LOAD	10,740		
1st 10KVA @ 100%	10,000		
REMAINDER @ 50%	370		
GENERAL LOAD @ 100% (VA)			**624**
MOTOR LOAD @ 100% (VA)			**0**
LARGEST MOTOR LOAD @ 125% (VA)			**0**
COOLING LOAD @ 100% (VA)			**14,544**
HEATING LOAD @ 100% (VA)			**38,400**
SPARE CAPACITY (VA) @		**11.0 %**	**7,118**
TOTAL SERVICE KVA			**72**
TOTAL SERVICE AMPS @	**240**	**VOLTS**	**299**

COOLING AND HEATING LOADS ARE NONCOINCIDENT.
ONLY THE LARGEST IS USED IN SERVICE CALCULATION

LOAD ANALYSIS INCLUDES SPARE CAPACITY.

NEW LOAD CENTER "A" 100 A MCB

SERVICE 240/120V, 1ø, 3 WIRE — **AIC 10,000** — **NEMA 1**

WIRE	CRT#	BKR	/ P	ITEM DESCRIPTION	AMPS	A	B	AMPS	ITEM DESCRIPTION	BKR	/ P	CRT#	WIRE
2-#12 + 1-#12(G)EA	1	20	/ 1	GIFT SHOP, OFFICES AND RESTROOM LIGHTS	11.5	13.1		1.6	ELECTRICAL AND STORAGE RM LIGHTS	20	/ 1	2	2-#12 + 1-#12(G)EA
2-#12 + 1-#12(G)EA	3	20	/ 1	NW SECTION EXHIBIT LIGHTS	7.0		12.4	5.4	SOUTHWEST SECTION EXHIBIT LIGHTS	20	/ 1	4	2-#12 + 1-#12(G)EA
2-#12 + 1-#12(G)EA	5	20	/ 1	EAST SECTION EXHIBIT LIGHTS	6.0	7.2		1.2	N. COLUMN EXHIBIT INT AND EGRESS LIGHTS	20	/ 1	6	2-#12 + 1-#12(G)EA
2-#12 + 1-#12(G)EA	7	20	/ 1	OFFICE SOUTHWALL RECEPTACLES	9.0		24.0	15.0	OFFICE NORTHWALL COPIER	20	/ 1	8	2-#10 + 1-#10(G)EA
2-#12 + 1-#12(G)EA	9	20	/ 1	OFFICE NORTHWALL DESK RECEPTACLE	1.5	7.5		6.0	NORTH WEST CORNER GIFT SHOP RECEPTACLES	20	/ 1	10	2-#12 + 1-#12(G)EA
2-#12 + 1-#12(G)EA	11	20	/ 1	GIFT SHP IN-WALL RECEPTACLES	4.5		12.0	7.5	SALES COUNTER RECEPTACLES	20	/ 1	12	2-#12 + 1-#12(G)EA
2-#12 + 1-#12(G)EA	13	20	/ 1	INTERPRETER RM RECEPTACLES EAST WALL	3.0	6.0		3.0	SITE MANAGER RM RECEPTACLES WEST WALL	20	/ 1	14	2-#12 + 1-#12(G)EA
2-#12 + 1-#12(G)EA	15	20	/ 1	INTERPRETER AND SITE MANAGER IN-WALL PLUG	9.0		19.0	10.0	EWC AND REFRIGERATOR *GFCI BREAKER*	20	/ 1	16	2-#12 + 1-#12(G)EA
2-#12 + 1-#12(G)EA	17	20	/ 1	STORAGE ROOM RECEPTACLE EAST WALL	1.5	4.5		3.0	EXHIBIT CHASE SERVICE OUTLETS EAST WALL	20	/ 1	18	2-#12 + 1-#12(G)EA
	19	20	/ 1	SPARE	0.0		0.0	0.0	SPARE	20	/ 1	20	
2-#12 + 1-#12(G)EA	21	20	/ 1	EF-1 & EF-2	5.2	8.2		3.0	ELECTRICAL ROOM RECEPTACLES	20	/ 1	22	2-#12 + 1-#12(G)EA
	23	20	/ 1	SPARE	0.0		0.0	0.0	SPARE	20	/ 1	24	
2-#12 + 1-#12(G)EA	25	20	/ 1	MEN AND WOMEN RECEPTACLES	3.0	6.0		3.0	ELECTRICAL ROOM RECEPTACLES	20	/ 1	26	2-#12 + 1-#12(G)EA
INSTALL PER MANUFACTURER	27	20	/ 2	SPD MANUFACTURED BY HUBBELL	0.0		0.0	0.0	SPARE	20	/ 1	28	
INSTRUCTIONS	29			TYPE 2, MODEL#HBLSW50	0.0	3.0		3.0	ELECTRICAL ROOM RECEPTACLES	20	/ 1	30	2-#12 + 1-#12(G)EA
	31			NO ADDITIONAL SPACES REQUIRED	0.0		0.0	0.0	NO ADDITIONAL SPACES REQUIRED			32	
	33				0.0	0.0		0.0				34	
	35				0.0		0.0	0.0				36	
	37				0.0	0.0		0.0				38	
	39				0.0		0.0	0.0				40	
	41				0.0	0.0		0.0				42	
						55.5	**67.4**						

* GFCI BREAKER
**PROVIDE A CIRCUIT BREAKER CAPABLE OF BEING LOCKED IN THE OPEN POSITION
CONTRACTOR SHALL SUPPLY APPROPRIATE FRAME RATING TO ACCOMMODATE FEEDER WIRE SIZE AND BRANCH CIRCUIT WIRES FOR ALL BREAKERS ON THIS PROJECT

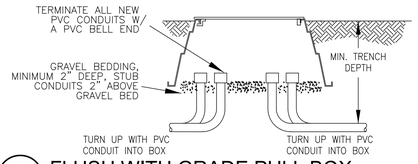
NEW LOAD CENTER "B" 200 A MCB

SERVICE 240/120V, 1ø, 3 WIRE — **AIC 10,000** — **NEMA 1**

WIRE	CRT#	BKR	/ P	ITEM DESCRIPTION	AMPS	A	B	AMPS	ITEM DESCRIPTION	BKR	/ P	CRT#	WIRE
2-#6 + 1-#10(G)EA	1	60	/ 2	AHU-1	40.0	80.0		40.0	AHU-2	60	/ 2	2	2-#6 + 1-#10(G)EA
	3			CIRCUIT#1	40.0		80.0	40.0	CIRCUIT#1			4	
2-#6 + 1-#10(G)EA	5	60	/ 2	AHU-1	40.0	80.0		40.0	AHU-2	60	/ 2	6	2-#6 + 1-#10(G)EA
	7			CIRCUIT#2	40.0		80.0	40.0	CIRCUIT#2			8	
3-#6 + 1-#10(G)EA	9	50	/ 2	HP-1	31.8	62.1		30.3	HP-2	50	/ 2	10	2-#6 + 1-#10(G)EA
	11			OUTDOOR UNIT LOAD CENTER	30.3		60.6	30.3	OUTDOOR UNIT			12	
REUSE EXISTING CONDUCTORS	13	20	/ 1	WELL HOUSE RECEPTACLE	1.5	1.5		0.0	SPARE	20	/ 1	14	
	15	20	/ 1	SPARE	0.0		0.0	0.0	SPARE	20	/ 1	16	
	17	20	/ 1	SPARE	0.0	0.0		0.0	SPARE	20	/ 1	18	
	19	20	/ 1	SPARE	0.0		0.0	0.0	SPARE	20	/ 1	20	
INSTALL PER MANUFACTURER	21	20	/ 2	SPD MANUFACTURED BY HUBBELL	0.0	0.0		0.0	SPARE	20	/ 1	22	
INSTRUCTIONS	23			TYPE 2, MODEL#HBLSW50	0.0		0.0	0.0	SPARE	20	/ 1	24	
	25		/	NO ADDITIONAL SPACES REQUIRED	0.0	0.0		0.0	NO ADDITIONAL SPACES REQUIRED		/	26	
	27		/		0.0		0.0	0.0			/	28	
	29		/		0.0	0.0		0.0			/	30	
	31		/		0.0		0.0	0.0			/	32	
	33		/		0.0	0.0		0.0			/	34	
	35		/		0.0		0.0	0.0			/	36	
	37		/		0.0	0.0		0.0			/	38	
	39		/		0.0		0.0	0.0			/	40	
	41		/		0.0	0.0		0.0			/	42	
						223.6	**220.6**						

* GFCI BREAKER
**PROVIDE A CIRCUIT BREAKER CAPABLE OF BEING LOCKED IN THE OPEN POSITION
CONTRACTOR SHALL SUPPLY APPROPRIATE FRAME RATING TO ACCOMMODATE FEEDER WIRE SIZE AND BRANCH CIRCUIT WIRES FOR ALL BREAKERS ON THIS PROJECT

NEW UNDERGROUND PULL BOX FOR BELOW GRADE SERVICE, POLYMER/CONCRETE TYPE EQUAL TO QUAZITE #PG SERIES W/ COVER LABEL "LOW VOLTAGE LIGHTING". BOX LOAD DESIGN RATED UL-LISTED TIER 5 WITH STANDARD DUTY LG SERIES BOLTED COVER. PROVIDE MANUFACTURER COLOR OPTION FOR GROUND BOX POLYMER CONCRETE COLLAR AND COVER SHALL BE "CUSTUM COLOR ORDERED TO MATCH THE EXISTING SOIL COLOR"



2 FLUSH WITH GRADE PULL BOX
SCALE: NOT TO SCALE

SEE E1.1 FOR GENERAL NOTES
SEE E3.1 FOR ONE-LINE DIAGRAMS
SEE TE5.1 FOR PROJECT SPECIFICATIONS

3 EXISTING HOST SITE ENCLOSED BREAKER AND RV PEDESTAL
SCALE: NOT TO SCALE

TEXAS PARKS & WILDLIFE

STATE OF TEXAS
CARL OWEN NIX
93674
REGISTERED PROFESSIONAL ENGINEER
4/29/2021

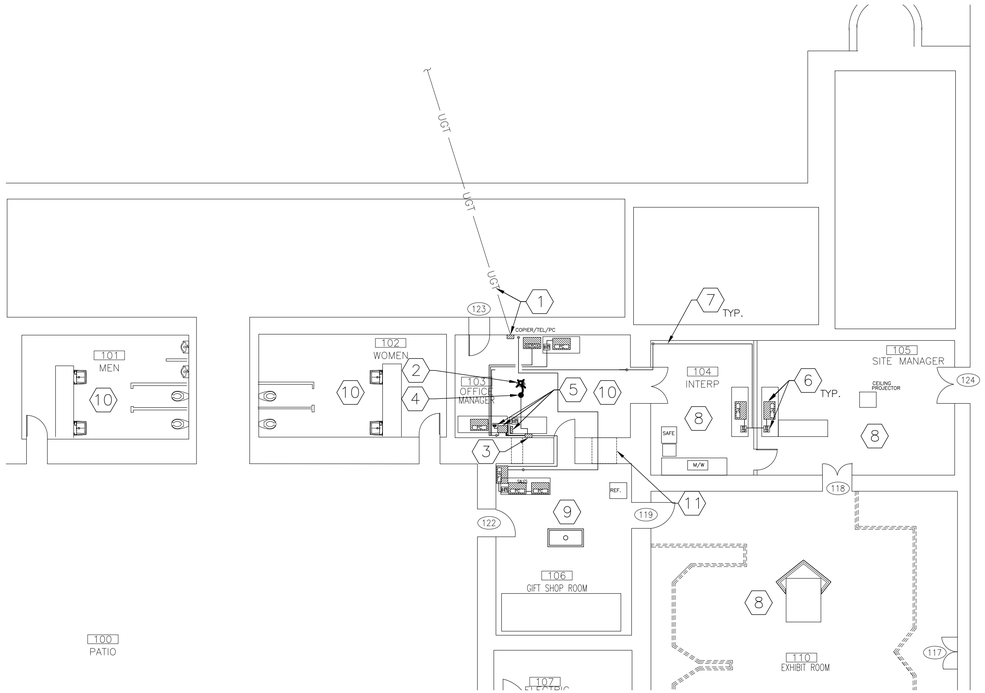
FORT LEATON STATE HISTORIC SITE
ELECTRICAL REPAIRS AND UPDATES
PROJECT: MR10415

CONSTRUCTION DRAWINGS

DATE: 04-29-2021
DESIGNED BY: CN
DRAWN BY: CN
REVIEWED BY: CN
REVISED:
REVISED:
REVISED:

SHEET TITLE
PROPOSED ELECTRICAL DETAILS AND SCHEDULES

SHEET NUMBER
E4.1



NORTH

1 EXISTING TECHNOLOGY PLAN

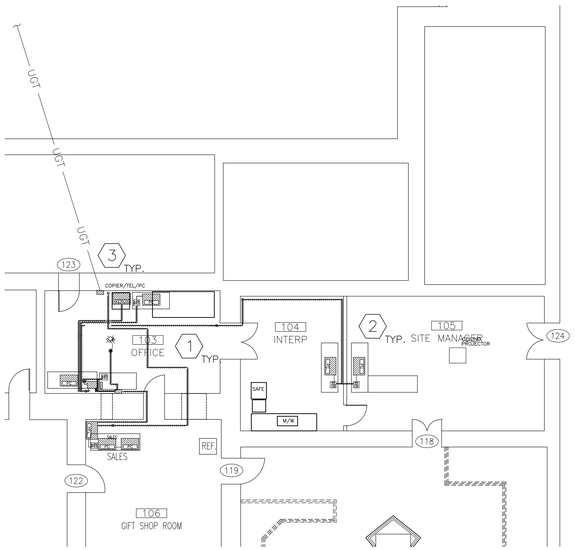
SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APROXIMATIE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

EXISTING KEYED NOTES -

1. UNDERGROUND TELEPHONE SERVICE LINE STUBS UP ABOVEGRADE INSIDE EXTERIOR WALL AND DAYLIGHTS INSIDE THE OCCUPIED SPACE, THE TELEPHONE EQUIPMENT DEMARK IS SURFACE MOUNTED ON THE WALL, WITH A DEDICATED POTS LINE CONNECTION WITH EXISTING CAT 3 CABLE TO XEROX PRINTER/SCANNER/COPIER/FAX MACHINE SHALL REMAIN.
2. EXISTING ROOF MOUNTED ANTENNA WITH A POINT TO PONT RADIO Wi-FI INTERNET EQUIPMENT.
3. EXISTING SURFACE WALL MOUNTED RADIO POINT TO POINT INTERNET EQUIPMENT.
4. EXISTING ROOF PENETRATION FOR COMMUNICATION CABLES TO ROOF MOUNTED ANTENNA.
5. EXISTING IT SWITCH, UPS AND ROUTER EQUIPMENT LOCATED ON OFFICE FURNITURE.
6. EXISTING DESKTOP PERSONAL COMPUTER AND VOICE OF IP TELEPHONE.
7. EXISTING EXPOSED HORIZONTAL COMMUNICATION CABLES.
8. EXISTING VIGA AND LATILLA CEILING WITH NO ACCESS ABOVE CEILING.
9. EXISTING VIGA AND LATILLA CEILING WITH ACCESS ABOVE CEILING THROUGH 2X4 LIGHT FIXTURE.
10. EXISTING 2X4 ACOUSTICAL DROP CEILING WITH ACCESS ABOVE CEILING.
11. EXISTING OPEN PASS THROUGH ABOVE CEILING.

GENERAL NOTES

1. SEE SHEET E1.1 / GENERAL NOTES, APPLY TO THE TECHNOLOGY SHEETS, ADDITIONAL GENERALS NOTES PERTAINING TO THE TECHNOLOGY SHEETS ARE LISTED HERE.
2. PROVIDE A GROUNDING SYSTEM THAT MEETS THE MOTOROLA STANDARDS AND GUIDELINES FOR COMMUNICATION SITES.
3. THE LOCATION OF EACH DATA DROP ON THE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO GIVE COMPLETE AND ACCURATE DETAILS IN REGARD TO LOCATION. EXACT LOCATION SHOULD BE DETERMINED BY ACTUAL MEASUREMENTS ON SITE, AND WILL IN ALL CASES BE SUBJECT TO THE APPROVAL OF THE DESIGNATED OWNER REPRESENTATIVE. THE OWNER RESERVES THE RIGHT TO MAKE ANY REASONABLE CHANGES IN THE LOCATIONS INDICATED WITHOUT ADDITIONAL COST.
4. DO NOT SPLICE HORIZONTAL DISTRIBUTION CABLING UNLESS TERMINATION IS REQUIRED AT THE PATCH PANEL OR THE FACEPLATE DATA PORT. THE CONTRACTOR SHALL APPLY CABLE MANAGEMENT AND DRESS DOWN THE CABLES TO THE PATCH PANEL IN A NEAT AND ORDERLY MANNER WITH CABLE TIES. MOUNTED TO THE BACK BOARD.
5. THE INSTALLING CONTRACTOR SHALL BE CERTIFIED BY THE SUPPLIED EQUIPMENT MANUFACTURER.
6. PROVIDE SERVICE LOOPS AT THE OPEN ENDED CONDUIT ABOVE THE DROP CEILING AT EACH OUTLET.
7. THE TECHNOLOGY CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR AND TPWD IT PERSONNEL TO LIMIT TECHNOLOGY OUTAGES, REFER TO SHEET E1.1, GENERAL NOTE#5.



NORTH

2 DEMOLITION TECHNOLOGY PLAN

SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APROXIMATIE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

DEMOLITION KEYED NOTES -

1. DEMOLISH ALL EXISTING HORIZONTAL COMMUNICATION CABLES AND VOICE DATA OUTLETS ABOVE THE CEILINGS AND EXPOSED IN THE EACH ROOM.
2. PREPARE ALL EXISTING IT HARDWARE AND IT EQUIPMENT FOR REUSE.
3. UNDERGROUND TELEPHONE SERVICE LINE IS STUBBED UP ABOVEGRADE INSIDE EXTERIOR WALL AND DAYLIGHTS INSIDE THE OCCUPIED SPACE, THE TELEPHONE EQUIPMENT DEMARK IS SURFACE MOUNTED ON THE WALL, WITH A DEDICATED POTS LINE CONNECTION WITH EXISTING CAT 3 CABLE TO XEROX PRINTER/SCANNER/COPIER/FAX MACHINE SHALL REMAIN.

SEE E1.1 FOR GENERAL NOTES

SEE TE5.1 FOR PROJECT SPECIFICATIONS

TEXAS PARKS & WILDLIFE

STATE OF TEXAS
CARL OWEN NIX
93674
REGISTERED PROFESSIONAL ENGINEER
4/29/2021

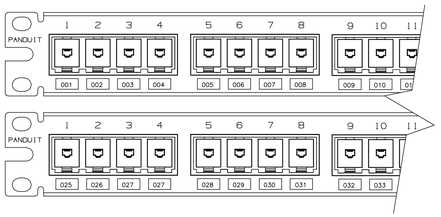
FORT LEATON STATE HISTORIC SITE
ELECTRICAL REPAIRS AND UPDATES
PROJECT: MR10415

CONSTRUCTION DRAWINGS

DATE: 04-29-2021
DESIGNED BY: CN
DRAWN BY: CN
REVIEWED BY: CN
REVISED:
REVISED:
REVISED:

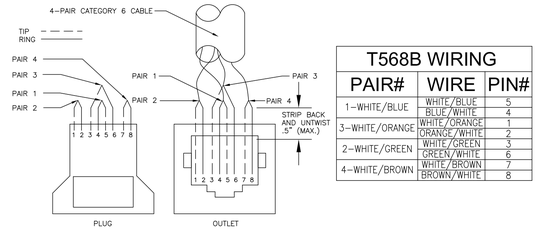
SHEET TITLE
EXISTING AND DEMOLITION TECHNOLOGY PLAN

SHEET NUMBER
T1.1



1 TYPICAL CATEGORY 6 PATCH PANEL LABELING

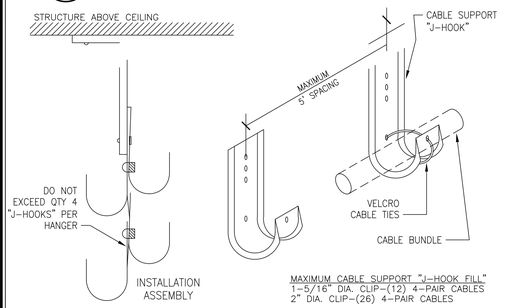
SCALE: NOT TO SCALE



T568B WIRING		
PAIR#	WIRE	PIN#
1-WHITE/BLUE	WHITE/BLUE	5
	BLUE/WHITE	4
3-WHITE/ORANGE	WHITE/ORANGE	1
	ORANGE/WHITE	2
2-WHITE/GREEN	WHITE/GREEN	3
	GREEN/WHITE	6
4-WHITE/BROWN	WHITE/BROWN	7
	BROWN/WHITE	8

2 T568B CATEGORY RJ-45 JACK WIRING ASSIGNMENT

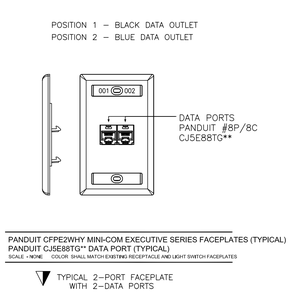
SCALE: NOT TO SCALE



MAXIMUM CABLE SUPPORT "J-HOOK FILL"
1-5/16" DIA. CLIP-(12) 4-PAIR CABLES
2" DIA. CLIP-(26) 4-PAIR CABLES

3 J-HOOK OPEN TOP CABLE SUPPORTS

SCALE: NOT TO SCALE

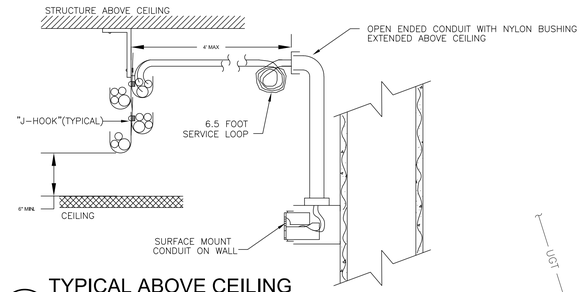


PANDUIT CFPE2WHY MINI-COM EXECUTIVE SERIES FACEPLATES (TYPICAL)
PANDUIT CJ5E88TG** DATA PORT (TYPICAL)
SCALE = NONE COLOR SHALL MATCH EXISTING RECEPTACLE AND LIGHT SWITCH FACEPLATES

TYPICAL 2-PORT FACEPLATE WITH 2-DATA PORTS

4 MODULAR OUTLET CONFIGURATION

SCALE: NOT TO SCALE

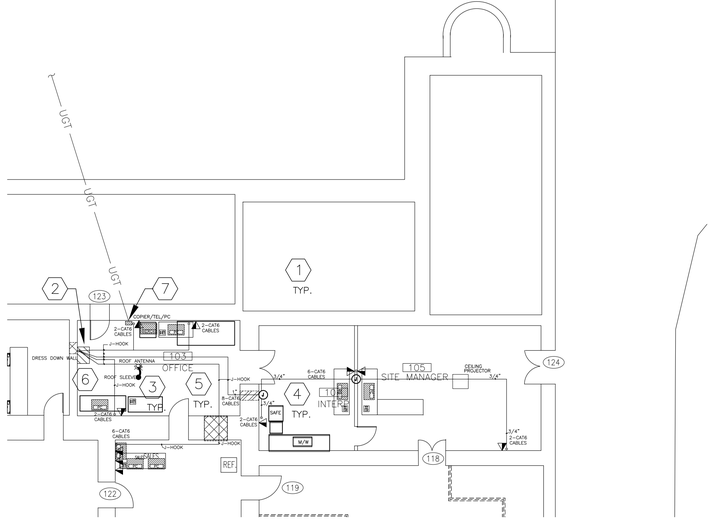


5 TYPICAL ABOVE CEILING CABLE ROUTING

SCALE: NOT TO SCALE

COMMUNICATION SYMBOLS AND LEGEND

	FLOOR MOUNTED DATA AND TELEPHONE COMBINATION OUTLET 2-DATA, 2-BLANKS.
	WALL DATA OUTLET 2-DATA
	WALL CATV ONLY OUTLET 1-RG 6
	WALL DATA ONLY OUTLET 1-DATA
	TELEPHONE ONLY OUTLET 1-VOICE
C	CEILING MOUNTED DATA AND TELEPHONE COMBINATION OUTLET 2-DATA, 2-BLANKS.



NORTH

6 PROPOSED TECHNOLOGY PLAN

SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APROXIMATIE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

PROPOSED KEYED NOTES -

1. SEE SHEET E1.1 / GENERAL NOTES, ALSO REFER TO GENERAL NOTE#12 FOR SURFACE MOUNTED CONDUIT REQUIREMENTS.
2. PROVIDE A 48-INCH-WIDE BY 48-INCH-TALL, 3/4 INCH THICK, BCX PLYWOOD BACKBOARD SECURED TO WALL, PAINTED WITH 2-COATS OF FIRE-RETARDANT PAINT. FIELD VERIFY FINAL LOCATION WITH FIELD STAFF. PROVIDE ALL-THREAD, FENDER WASHERS AND LOCKING NUTS. DRILL THROUGH EXISTING WHITE WASH CEMENT PLASTER ADOBE WALL INTO THE RESTROOM. USE A FORSTNER BIT INSIDE THE RESTROOM TO RECESS THE HEXAGONAL LOCKING NUTS AND FENDER WASHERS. REPLACE AND REPAIR BATHROOM TILE AND GROUT TO MATCH PRE-CONSTRUCTION CONDITIONS; CONCEAL THE LOCKING HEXAGONAL NUT AND FENDER WASHER BENEATH THE TILE. PROVIDE A BOLT THROUGH WALL ANCHOR SYSTEM THROUGH THE WALL AND PLYWOOD BACKBOARD IN EACH CORNER OF THE BACKBOARD.
   - 2.1. PROVIDE A 6U LOW PROFILE SWITCH-DEPTH WALL MOUNT RACK ENCLOSURE CABINET MODEL# SRW6U MANUFACTURED BY TRIPP-LITE. SECURE THE WALL MOUNT RACK ENCLOSURE TO THE BACKBOARD PER THE MANUFACTURER INSTALLATION INSTRUCTIONS.
   - 2.2. THE CONTRACTOR SHALL TERMINATE ALL HORIZONTAL DISTRIBUTION CABLES TO THE PATCH PANEL WITH A INDUSTRY STANDARD PUNCH DOWN TOOL. PROVIDE CABLE MANAGEMENT, BUNDLE AND NEATLY GROUP THE CABLES ABOVE THE ACOUSTICAL 2X4 DROP DOWN CEILING. DROP THE CABLES DOWN THRU THE DROP CEILING ABOVE THE WALL RACK. NEATLY DRESS THE CABLES DOWN THE WALL AND BACKBOARD USING WIRE TIES. SUPPORT AND SECURE THE CABLE BUNDLE TO THE CONTRACTOR SUPPLIED BACKBOARD.
   - 2.3. PROVIDE A 1RU 24-PORT CATEGORY 6/CLASS D, PUSHDOWN PATCH PANEL MANUFACTURED BY PANDUIT MODEL # DP245E88TGY. PROVIDE AND INSTALL A FACTORY 24-PORT LABEL KIT. EACH PORT SHALL BE PROFESSIONALLY LABELED. SEE SHEET T1.2/DETAIL#1 AND DETAIL#2.
   - 2.4. PROVIDE A PRE-ASSEMBLED GROUND BUSS BAR WITH BRACKETS AND INSULATORS, MANUFACTURED BY PANDUIT MODEL # GB2BO312TPI-1. ANCHOR THE GROUND BUSS BAR TO THE BACKBOARD. PROVIDE A #6 AWG SOLID COPPER CONDUCTOR AND SINGLE BARREL LUG BONDED TO THE WALL MOUNT RACK ENCLOSURE, TERMINATE AND BOND THE OTHER END OF THE CONDUCTOR TO GROUND BUSS BAR.
3. THE CONTRACTOR SHALL PROVIDE, PULL AND TERMINATE TWO HORIZONTAL DISTRIBUTION CABLES CAT-6 PLENUM RATED CABLES. ROUTE EACH HORIZONTAL CABLE FROM EACH FACEPLATE MODULE AT EACH SURFACE MOUNTED VOICE DATA OUTLET TO THE PATCH PANEL. PROVIDE A SURFACE MOUNTED ENCLOSURE FOR EACH DATA OUTLET. LABEL BOTH ENDS OF EACH CABLE.
4. ALL CAT-6 PLENUM RATED CABLES ROUTED BELOW THE CEILING SHALL BE PULLED IN EMT CONDUIT WITH COMPRESSION FITTINGS. ALL ABOVE THE CEILING HORIZONTAL CABLING SECTIONS SHALL BE ROUTED EXPOSED AND SUPPORTED ON J-HOOKS. AT THE LOCATIONS WHERE THE CABLES EXITS THE OPEN ENDED CONDUIT ABOVE AN ACCESSIBLE CEILING; THE CONTRACTOR SHALL PROVIDE A 6.5 FOOT SERVICE LOOP FOR EACH CABLE. THE SERVICE LOOP SHALL BE SECURED AND SUSPENDED ON A J-HOOK JUST ABOVE THE CEILING. EACH CABLE SHALL BE CONCEALED AND ROUTED ABOVE THE CEILING TO THE PATCH PANEL IN NEAT AND ORDERLY MANNER.
5. ALL CABLES ROUTED ABOVE THE CEILING SHALL BE SUPPORTED EVERY 5 FEET WITH J-HOOKS AND ROUTED PARALLEL AND PERPENDICULAR TO THE BUILDING LINES. SPLICES IN THE HORIZONTAL CABLES ARE PROHIBITED AND WILL NOT BE ACCEPTED. SEE SHEET T1.2/DETAIL#3 AND DETAIL#5.
6. THE CONTRACTOR SHALL PROVIDE A MINI-COM EXECUTIVE SERIES FACEPLATE WITH 2-PORTS MANUFACTURED BY PANDUIT MODEL#CFPE2WHY AT EACH SURFACE MOUNTED VOICE DATA OUTLET. TERMINATE EACH HORIZONTAL CABLE TO EACH FACEPLATE WITH A CATEGORY 6, 8-POSITION, UTP MINI-COM UNIVERSAL JACK MODULE MANUFACTURED BY PANDUIT MODEL#CJ5E88TG**. EACH FACEPLATE SHALL BE EQUIPPED WITH A LABEL AND LABEL COVER. EACH PORT SHALL BE PROFESSIONALLY LABELED. SEE SHEET T1.2/DETAIL#1 AND DETAIL#4.
   - 6.1. THE CONTRACTOR SHALL TEST ALL PROVIDED, PULLED AND TERMINATED HORIZONTAL DISTRIBUTION CABLES. THE TEST RESULTS SHALL BE WITNESSED BY THE DESIGNATED OWNER REPRESENTATIVE AND DOCUMENTED AND SUBMITTED TO THE PROJECT MANAGER FOR TPWD RECORDS AND REVIEW.
   - 6.2. THE OWNER WILL COME BEHIND THE CONTRACTOR AND PROVIDE A RADIO MANUFACTURED BY MIKROTIK BASE BOX2 (RB912UAG-2HUAG-2HPnD-OUT) ON THE BACKBOARD OR SIMILAR EQUIPMENT. THE CONTRACTOR SHALL LOCATE THE WALL RACK ENCLOSURE CABINET AND GROUND BUSS BAR TO ALLOW FOR SPACE ON THE BACKBOARD FOR THE RADIO INSTALLATION AT A LATER DATE.
   - 6.3. THE CONTRACTOR SHALL PROVIDE A HYPERLINK WIRELESS BRAND WEATHERPROOF 10/100/1000 BASE-T HIGH POWER CAT6 LIGHTING AND SURGE PROTECTOR MANUFACTURED BY L-COM MODEL # CMSP-CAT6GT-2 TWO PORT SURFACE MOUNTED. THE CONTRACTOR SHALL SECURELY MOUNT AND ANCHOR THE LIGHTING AND SURGE PROTECTOR TO THE PLYWOOD BACKBOARD.
   - 6.4. THE CONTRACTOR SHALL PROVIDE A #6 AWG SOLID COPPER WIRE FROM THE LIGHTNING SURGE PROTECTOR GROUND LUG TO THE GROUND BUSS BAR BACKBOARD.
   - 6.5. BOND THE GROUND BUSS BAR LOCATED ON THE BACKBOARD TO THE ELECTRICAL GROUNDING SYSTEM WITH A #6 COPPER WIRE ROUTED IN CONDUIT IN THE ELECTRICAL ROOM 107.
   - 6.6. THE OWNER WILL COME BEHIND THE CONTRACTOR AND PROVIDE A L-COM "HG241D ANTENNA MOUNTED TO THE ROOF MOUNTED ANTENNA.
   - 6.7. THE CONTRACTOR SHALL LEAVE THE ROOF SLEEVE OPEN, UNTIL THE OWNER INSTALLS THE IT HARDWARE. THE CONTRACTOR SHALL SEAL THE EXITING ROOF PENETRATION TO MATCH ORIGINAL PRE-CONSTRUCTION CONDITIONS, TO PROVIDE A WEATHERPROOF ROOF PENETRATION.
   - 6.8. THE CONTRACTOR SHALL FURNISH AND DRIVE A 3/4" X 10' COPPER CLAD GROUND ROD INTO THE EARTH, THROUGH THE EXISTING FOUNDATION WALL MOUNT RACK ENCLOSURE CABINET. PROVIDE A UL-LISTED AND LABELED DIRECT BURIAL 3/4" WITH A EXOTHERMIC WELDED CONNECTION FOR EACH CONDUCTOR TERMINATED TO THE GROUND ROD. ELECTRICALLY TRACE THE EXISTING WATER LINES AND CONDUITS TO AVOID DAMAGING THE EXISTING UNDERGROUND CONDUITS AND WATERLINE. HAMMER DRILL THROUGH THE EXISTING FOUNDATION TO AVOID DAMAGE TO FOUNDATION AND EXITING FLOORING.
   - 6.9. PROVIDE A #6 AWG SOLID BARE COPPER ELECTRODE CONDUCTOR FROM THE LIGHTNING AND SURGE PROTECTOR GROUND LUG TO A EXOTHERMIC WELDED CONNECTION TO CONTRACTOR PROVIDED GROUND ROD.
   - 6.10. PROVIDE A #6 AWG SOLID BARE COPPER BONDING CONDUCTOR FROM THE ROOF ANTENNA METAL STRUCTURE TO THE GROUND ROD. TERMINATE ONE END OF THE CONDUCTOR TO A EXOTHERMIC WELDED CONNECTION TO THE GROUND ROD AND BOND THE OTHER END TO THE ROOF ANTENNA METAL STRUCTURE.
   - 6.11. PROVIDE A TWO OUTDOOR RATED LITHIUM FILLED CAT5E CABLES MANUFACTURED BY MOHAWK OUTSIDE PLANT CABLE. ROUTE AND TERMINATE THE FIRST CAT5E CABLE FROM THE LIGHTING AND SURGE PROTECTOR, ROUTED THROUGH EXISTING ROOF PENETRATION, COIL UP 5 FEET OF CABLE AT THE ROOF ANTENNA STRUCTURE WITH A RJ-45 JACK PLUG, TERMINATE THE OTHER END OF THE CABLE TO THE UNPROTECTED SIDE OF LIGHTNING AND SURGE PROTECTOR. ROUTE AND TERMINATE THE SECOND CAT5E CABLE FROM THE PROTECTED SIDE OF THE LIGHTNING AND SURGE PROTECTOR TERMINATED TO THE PATCH PANEL.
7. BOND THE GROUND BUSS BAR LOCATED ON THE BACKBOARD TO THE ELECTRICAL GROUNDING LUG ON THE EXISTING PLAIN OLD TELEPHONE DEMARK SYSTEM WITH A #6 COPPER WIRE ROUTED IN CONDUIT.

SEE E1.1 FOR GENERAL NOTES

SEE TE5.1 FOR PROJECT SPECIFICATIONS

TEXAS PARKS & WILDLIFE

FORT LEATON STATE HISTORIC SITE
ELECTRICAL REPAIRS AND UPDATES
PROJECT: MR10415

CONSTRUCTION DRAWINGS

DATE: 04-29-2021
DESIGNED BY: CN
DRAWN BY: CN
REVIEWED BY: CN
REVISED:
REVISED:
REVISED:

SHEET TITLE
PROPOSED TECHNOLOGY PLAN

SHEET NUMBER
T1.2

DIVISION 23 MECHANICAL SPECIFICATIONS

SECTION 23 00 00 – BASIC MECHANICAL REQUIREMENTS

PART 1 – GENERAL

1.1 CODES AND STANDARDS:

A. CODES AND STANDARDS: ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH SMACNA–HVAC DUCT CONSTRUCTION STANDARDS AND THE INTERNATIONAL MECHANICAL CODE 2015. THE PROJECT MECHANICAL WORK SHALL BE PERFORMED BY A CONTRACTOR LICENSED WITH TDLR TO PERFORM MECHANICAL WORK. THE MECHANICAL WORK SHALL BE PERFORMED UNDER THE DIRECT, ON–SITE SUPERVISION OF A LICENSED MECHANICAL CONTRACTOR. SUBMIT COPIES OF THE LICENSES FOR ALL OF THE LICENSED PERSONAL THAT WILL PERFORM THE WORK. SUBMIT THIS INFORMATION AS PART OF THE PROJECT CONSTRUCTION SUBMITTAL INFORMATION.

B. ALL DUCT SIZES INDICATED IN THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS, ALL DUCT MATERIALS SHALL BE UL 181, CLASS 1 LISTED.

C. ALL WORK SHALL CONFORM WITH ASTM, ASME, ASHRAE, SMACNA, AWWA, NSF, NFPA AND TCEQ UNLESS NOTED OTHERWISE..

1.2 MATERIAL SUBMITTALS:

A. SUBMIT UNDER PROVISIONS OF "TERMS AND CONDITIONS" OF THE CONTRACT.

B. MARK ALL SUBMITTAL LITERATURE TO INDICATE THE PRECISE SELECTION OF MATERIALS, DIMENSIONS AND EQUIPMENT SUBMITTED. NOTE THAT IF THE SPECIFIC MODEL OR MATERIAL IS NOT INDICATED IN THE SUBMITTAL, AND THERE IS MORE THAN ONE CHOICE POSSIBLE, THE SUBMITTAL MAY BE REJECTED AND A RESUBMITTAL WILL BE REQUIRED.

C. PROPOSED SUBMITTAL LIST SHALL INCLUDE ALL EQUIPMENT WITH MANUFACTURER OR MODEL NUMBERS CALLED OUT IN THE DRAWINGS. WHERE THE PLANS AND SPECIFICATIONS CALL OUT A MANUFACTURER OR MODEL NUMBER, CONTRACTOR SHALL PROVIDE AND SUBMIT THE EXACT MANUFACTURER AND MODEL NUMBER OR EQUAL PRODUCT PER THE TERMS AND CONDITIONS. REFERENCE THIS SHEET FOR THE REQUIRED SUBMITTALS INDICATED IN THE CONTRACTOR'S PROJECT SUBMITTAL LIST.

PART 2 – PRODUCTS

2.1 CONFORMANCE WITH AGENCY REQUIREMENTS: WHERE MATERIALS OR EQUIPMENT ARE SPECIFIED TO BE APPROVED, LISTED, TESTED, OR LABELED BY THE UNDERWRITERS' LABORATORIES, INC. (UL), OR CONSTRUCTED AND/OR TESTED IN ACCORDANCE WITH THE STANDARDS OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) OR THE AIR MOVING AND CONDITIONING ASSOCIATION (AMCA), THE CONTRACTOR SHALL SUBMIT PROOF THAT THE ITEMS FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS CONFORM TO SUCH REQUIREMENTS. THE LABEL OF THE UNDERWRITERS LABORATORIES, INC., APPLIED TO THE ITEM WILL BE ACCEPTABLE AS SUFFICIENT EVIDENCE THAT THE ITEMS CONFORM TO SUCH REQUIREMENTS. THE ASME STAMP AND THE AMCA LABEL WILL BE ACCEPTABLE AS SUFFICIENT EVIDENCE THAT THE ITEMS CONFORM TO THE RESPECTIVE REQUIREMENTS.

A. NAMEPLATES: EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURER'S NAME, ADDRESS, AND CATALOG NUMBER ON A PLATE SECURELY ATTACHED TO THE ITEM OF EQUIPMENT. ALL DATA ON NAMEPLATES SHALL BE LEGIBLE AT THE TIME OF FINAL INSPECTION. UNDER NO CIRCUMSTANCES SHALL ANY NAMEPLATE BE PAINTED OVER FOR ANY REASON. IF A NEW OR EXISTING NAMEPLATE IS PAINTED OVER, THE NAMEPLATE SHALL BE RESTORED TO AS NEW CONDITION, OR REPLACED WITH A NEW NAMEPLATE PROVIDED BY THE MANUFACTURER.

B. PROTECTION FROM MOVING PARTS: BELTS, PULLEYS, CHAINS, GEARS, COUPLINGS, PROJECTING SETSCREWS, KEYS, AND OTHER ROTATING PARTS SHALL BE FULLY ENCLOSED OR PROPERLY GUARDED FOR PERSONNEL PROTECTION.

C. WHEN THE DRAWINGS DO NOT GIVE EXACT DETAILS AS TO THE ELEVATION OF PIPE, CONDUIT AND DUCTS, THE CONTRACTOR SHALL PHYSICALLY ARRANGE THE SYSTEMS TO FIT IN THE SPACE AVAILABLE AT THE ELEVATIONS INTENDED WITH PROPER GRADES FOR THE FUNCTIONING OF THE SYSTEM INVOLVED. PIPING, EXPOSED CONDUIT AND THE DUCT SYSTEMS ARE GENERALLY INTENDED TO BE INSTALLED TRUE AND SQUARE TO THE BUILDING CONSTRUCTION, AND LOCATED AS HIGH AS POSSIBLE AGAINST THE STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE DRAWINGS DO NOT SHOW ALL REQUIRED OFFSETS, CONTROL LINES, PILOT LINES AND OTHER LOCATION DETAILS. WORK SHALL BE CONCEALED IN ALL FINISHED AREAS.

D. NOTE THAT NO ASBESTOS–BEARING, OR SOLVENT BASED, OR LEAD CONTAINING MATERIALS SHALL BE USED ON THIS PROJECT. IF ANY PROHIBITED MATERIALS ARE INSTALLED, ALL OF THE MATERIAL, INCLUDING THE UNDERLYING MATERIAL, SHALL BE REMOVED AND DISPOSED OF AS REQUIRED BY LOCAL, STATE, AND FEDERAL REQUIREMENTS.

D. VERIFICATION OF DIMENSIONS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER RELATION OF HIS WORK TO THE BUILDING STRUCTURE AND TO THE WORK OF ALL TRADES. THE CONTRACTOR SHALL VISIT THE PREMISES AND BECOME THOROUGHLY FAMILIARIZE WITH ALL DETAILS OF THE WORK AND WORKING CONDITIONS, TO VERIFY ALL DIMENSIONS IN THE FIELD, AND TO ADVISE THE OWNER OF ANY DISCREPANCY BEFORE PERFORMING ANY WORK. ADJUSTMENTS TO THE WORK REQUIRED IN ORDER TO FACILITATE A COORDINATED INSTALLATION SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

E. MATERIALS AND ADHESIVES INCORPORATED INTO THIS PROJECT SHALL CONFORM TO NFPA STANDARD 255, "METHOD OF TEST OF SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS". THE CLASSIFICATION SHALL NOT EXCEED A FLAME SPREAD RATING OF 25, NOR EXCEED A SMOKE DEVELOPED RATING OF 50, FOR ALL MATERIALS, ADHESIVES, FINISHES, ETC., SPECIFIED FOR EACH SYSTEM.

2.2 DUCT SEALANT:

A. SEALANT SHALL BE NON–HARDENING, LATEX BASED MASTIC, WATER RESISTANT, FIRE RESISTIVE AND COMPATIBLE WITH MATING MATERIALS. SOLVENT BASED DUCT SEALANTS ARE PROHIBITED.

PART 3 – EXECUTION

3.1 INSTALLATION

A. JOINTS IN ROUND DUCTS SHALL BE CRIMP AND BEAD TYPE WITH A MINIMUM OF THREE SHEET METAL SCREWS. JOINTS IN SECTIONAL ELBOWS SHALL BE SEALED AS SPECIFIED FOR DUCT SEALING.

B. REWORK EXISTING DUCT, MATCH EXISTING DUCT MATERIALS TO INTERSECT, EXTEND TO AND MATE THE PROPOSED EXHAUST FAN TO THE EXISTING DUCT.

DIVISION 26 ELECTRICAL SPECIFICATIONS

SECTION 26 00 00 – BASIC ELECTRICAL REQUIREMENTS

PART 1 – GENERAL

1.1 CODES AND STANDARDS:

CODES AND STANDARDS: ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2020 EDITION OF THE NATIONAL ELECTRIC CODE. THE PROJECT ELECTRICAL WORK SHALL BE PERFORMED BY A CONTRACTOR LICENSED WITH TDLR TO PERFORM ELECTRICAL WORK. THE ELECTRICAL WORK SHALL BE PERFORMED UNDER THE DIRECT, ON–SITE SUPERVISION OF A LICENSED, MASTER OR JOURNEYMAN ELECTRICIAN. SUBMIT COPIES OF THE LICENSES FOR ALL OF THE ELECTRICIANS THAT WILL PERFORM THE WORK. SUBMIT THIS INFORMATION AS PART OF THE PROJECT CONSTRUCTION SUBMITTAL INFORMATION.

1.2 MATERIAL SUBMITTALS:

A. SUBMIT UNDER PROVISIONS OF "TERMS AND CONDITIONS" OF THE CONTRACT.

B. MARK ALL SUBMITTAL LITERATURE TO INDICATE THE PRECISE SELECTION OF MATERIALS, DIMENSIONS AND EQUIPMENT SUBMITTED. NOTE THAT IF THE SPECIFIC MODEL OR MATERIAL IS NOT INDICATED IN THE SUBMITTAL, AND THERE IS MORE THAN ONE CHOICE POSSIBLE, THE SUBMITTAL MAY BE REJECTED AND A RESUBMITTAL WILL BE REQUIRED.

C. PROPOSED SUBMITTAL LIST SHALL INCLUDE ALL EQUIPMENT WITH MANUFACTURER OR MODEL NUMBERS CALLED OUT IN THE DRAWINGS. WHERE THE PLANS AND SPECIFICATIONS CALL OUT A MANUFACTURER OR MODEL NUMBER, CONTRACTOR SHALL PROVIDE AND SUBMIT THE EXACT MANUFACTURER AND MODEL NUMBER OR EQUAL PRODUCT PER THE TERMS AND CONDITIONS. REFERENCE THIS SHEET FOR THE REQUIRED SUBMITTALS INDICATED IN THE CONTRACTOR'S PROJECT SUBMITTAL LIST.

PART 2 – PRODUCTS

2.1 METAL RACEWAYS: RIGID STEEL CONDUIT:

A. PROVIDE RIGID STEEL, ZINC–COATED, THREADED TYPE CONFORMING TO ANSI C80.1 AND UL 6. PROVIDE ZINC COATING FUSED TO INSIDE AND OUTSIDE WALLS. RIGID METAL CONDUIT FITTINGS: CAST MALLEABLE IRON, GALVANIZED OR CADMIUM PLATED. ALL FITTINGS SHALL BE THREADED TYPE. THE USE OF SPLIT COUPLINGS IS UNACCEPTABLE. REFERENCE PLANS FOR CALLED OUT LOCATIONS.

B. PROVIDE ELECTRICAL METALLIC TUBING (EMT) CONFORMING TO ANSI C80.3 AND UL 6 WITH ZINC GALVANIZED COATING FUSED TO INSIDE AND OUTSIDE WALLS. ALL NEW EMT FITTINGS SHALL BE COMPRESSION TYPE, STEEL OR CAST. CONTRACTOR CAN REUSE EXISTING SET–SCREW TYPE EMT FITTINGS ON EXISTING CONDUITS AND PULL BOXES. REFERENCE PLANS FOR CALLED OUT LOCATIONS.

2.2 NONMETALLIC CONDUIT:

A. PVC HEAVY WALL CONDUIT: SCHEDULE 80, 90 C, UL RATED, CONSTRUCT OF POLYVINYL CHLORIDE AND CONFORMING TO NEMA TC–2, FOR DIRECT BURIAL, OR NORMAL ABOVE GROUND USE, UL–LISTED AND IN CONFORMITY WITH NEC ARTICLE 352. FITTINGS FOR NON–METALLIC CONDUIT SHALL CONFORM TO NEMA TC3 AND SHALL BE SPECIFICALLY MANUFACTURED FOR ELECTRICAL CONDUIT. WATER PIPE FITTINGS WILL NOT BE ACCEPTED. REFERENCE PLANS FOR CALLED OUT LOCATIONS.

2.3 UNDERGROUND WARNING TAPE:

PROVIDE A DETECTIBLE CAUTION TAPE FOR THE LENGTH OF THE TRENCH. CAUTION TAPE SHALL BE MANUFACTURED BY PRO–LINE'S DETECTABLE MARKING TAPE CONSISTS OF A MINIMUM 5.0 MIL OVERALL THICKNESS. CONSTRUCTION IS 0.8 MIL CLEAR VIRGIN POLYPROPYLENE FILM, REVERSE PRINTED AND LAMINATED TO A 0.35 SOLID ALUMINUM FOIL CORE AND THEN LAMINATED TO A 3.75 MIL CLEAR VIRGIN POLYETHYLENE FILM. TAPE SHALL BE PRINTED WITH APWA RED COLOR–CODED, PATENTED "DIAGONALLY STRIPED" DESIGN WITH BIG, BOLD, BLACK LETTERING TO IDENTIFY THE ELECTRICAL BURIED UTILITY LINE.

2.4 CONDUCTOR MATERIALS AND ACCESSORIES:

A. GENERAL USE SINGLE CONDUCTOR WIRE SHALL BE COPPER, TYPE THHN/THWN–2, UL LISTED FOR GENERAL USE AT A MAXIMUM OF 600 VOLTS AND A MAXIMUM TEMPERATURE OF 75 DEGREES C SUITED FOR DRY AND WET LOCATIONS AND GASOLINE PRESENT LOCATIONS. NUMBER 8 AWG AND LARGER SHALL BE STRANDED. MC CABLE SHALL HAVE AN EQUIPMENT GROUND WIRE AND SHALL BE #12 AWG MINIMUM.

B.

B. WIRE COLOR CODING FOR ALL NEW WIRING:

SYSTEM – 240/120 VAC, SINGLE PHASE

PHASE A	PHASE B	NEUTRAL	GROUND
BLACK	RED	WHITE	GREEN

WIRE COLORS SHALL BE INTEGRAL PIGMENTATION COLOR CODING FOR #8 AWG AND SMALLER WIRES, INCLUDING GROUND WIRES. FOR #6 AWG AND LARGER WIRES, COLORED PHASE TAPE SHALL BE APPLIED TO THE WIRE FOR IDENTIFICATION. TAPE SHALL BE APPLIED IN A SPIRAL, HALF–LAP MANNER OVER EXPOSED CONDUCTOR PORTIONS OF THE NEW AND EXISTING SERVICE AND FEEDER WIRING IN ATS SWITCHES, GENERATORS, SERVICE PEDESTALS, JUNCTION BOXES, LOAD CENTERS, PANELBOARDS, AND OTHER ENCLOSURES.

2.5 GROUNDING MATERIAL: SEE GROUND ELECTRODE TESTING IN THIS SPECIFICATION, PART 3.5.

A. NEW GROUND ELECTRODES: 3/4" X 10' LONG COPPER–BONDED GROUND RODS OR OTHER SPECIALLY DESIGNED GROUNDING SYSTEMS AS DESIGNATED BY THE ENGINEER.

B. GROUNDING ELECTRODE CONDUCTOR (GEC) CONNECTIONS: ALL GEC CONNECTIONS TO NEW GROUND ELECTRODES SHALL BE EXOTHERMIC TYPE CONNECTIONS. USING MECHANICAL OR COMPRESSION CLAMPS WILL NOT BE ALLOWED FOR CONNECTIONS TO NEW GROUND ELECTRODES.

PART 3 – EXECUTION

3.1 INSTALLATION OF CONDUITS:

A. MECHANICALLY FASTEN TOGETHER METAL CONDUITS, ENCLOSURES, AND RACEWAYS FOR CONDUCTORS TO FORM A CONTINUOUS ELECTRICAL CONDUCTOR.

B. CONDUITS SHALL HAVE OPENINGS TEMPORARILY PLUGGED TO EXCLUDE FOREIGN MATERIALS AND BE RIGIDLY SUPPORTED SO AS TO PREVENT UNDUE STRESS OR STRAIN ON THE COUPLINGS, CONNECTORS OR FITTINGS.

C. ON ALL METAL CONDUITS, BUSHINGS SHALL BE OF THE INSULATED TYPE. RMC CONDUIT SHALL BE ATTACHED TO ENCLOSURES WITH DOUBLE LOCKNUTS AND BUSHINGS.

D. ALL CONDUIT SYSTEMS MUST BE INSTALLED COMPLETE BEFORE CONDUCTORS ARE PULLED IN AND BE ELECTRICALLY CONTINUOUS THROUGHOUT.

E. USE SCHEDULE RGS CONDUIT FOR ALL NEW RISERS INTO THE BOTTOM OF THE ENCLOSURES, UNLESS OTHERWISE INDICATED.

F. FOR ALL EXTERIOR WET LOCATIONS; CONDUIT ENTRIES SHALL BE CONSTRUCTED WITH WEATHER–PROOF HUBS OR MALE ADAPTERS FITTINGS WITH SEALING LOCKNUTS.

G. FOR ALL INTERIOR DRY LOCATIONS; CONDUIT ENTRIES SHALL BE CONSTRUCTED WITH MALE ADAPTERS FITTINGS WITH LOCKNUTS.

H. FOR ALL BRANCH FEEDER CIRCUITS AND SERVICE ENTRANCE CONDUIT ENTRIES; PROVIDE GROUNDING BUSHINGS.

I. FOR ALL BRANCH CIRCUITS CONDUIT ENTRIES; PROVIDE NYLON BUSHINGS.

3.2 UNDERGROUND CONDUIT INSTALLATION:

A. ALL NEW UNDERGROUND CONDUIT AND CONDUIT IN CONTACT WITH EARTH OR CONCRETE SHALL BE SCHEDULE 80 PVC CONDUIT WITH PLASTI–BOND UL–LISTED PVC COATED RGS 90 ELBOWS CONDUIT STUB–UPS AND RISERS EXTENDED PVC COATED RGS UP TO THE BOTTOM OF EACH ENCLOSURE UNLESS NOTED OTHERWISE. SEAL ALL THREADS AND COUPLINGS ON PVC COATED RGS CONDUIT WITH PLASTI–BOND GRAY SEALANT TOUCH UP COMPOUND DESIGNED TO REPAIR MINOR DAMAGE TO THE PVC FACTORY COATING.

B. FOR UNDERGROUND CONDUIT SEE THE TRENCH DETAIL AND NOTES ON THE DRAWINGS. RUN CONDUIT IN STRAIGHT LINES EXCEPT WHERE A CHANGE OF DIRECTION IS NECESSARY. PROVIDE NOT LESS THAN 3 INCHES CLEARANCE FROM THE CONDUIT TO EACH SIDE OF THE TRENCH. AS EACH CONDUIT RUN IS COMPLETE, ASSURE THAT THE CONDUIT INTERIOR IS FREE FROM DIRT OR DEBRIS. THEN IMMEDIATELY INSTALL CONDUIT PLUGS OR OTHERWISE COVER END OF CONDUIT TO PREVENT ENTRY OF FOREIGN MATERIAL UNTIL WIRE IS PULLED INTO CONDUIT. EXCEPT AT CONDUIT RISERS; ACCOMPLISH CHANGES IN DIRECTION OF RUNS EXCEEDING A TOTAL OF 10 DEGREES, EITHER VERTICAL OR HORIZONTAL, WITH LONG SWEEP BENDS. MANUFACTURED BENDS SHALL HAVE A MINIMUM RADIUS OF 18 INCHES FOR USE WITH CONDUITS OF LESS THAN 3 INCHES IN DIAMETER.

C. ALL UNDERGROUND ELECTRICAL CONDUITS SHALL BE PERMANENTLY IDENTIFIED WITH A COLORED, ELECTRICAL IDENTIFICATION TAPE OVER THE CONDUIT SYSTEMS BEFORE BACKFILLING TRENCHES. ALL TAPE SHALL BE INSTALLED WITH THE WRITING FACE UP.

3.3 CONDUCTOR INSTALLATION:

A. SINGLE CONDUCTOR WIRING SHALL BE INSTALLED IN CONDUIT, A RACEWAY, BOX OR OTHER ENCLOSURE. NO CONDUCTORS OR CABLES SHALL BE INSTALLED IN CONDUITS, DUCT, OR RACEWAYS UNTIL THE RACEWAY OR CONDUIT SYSTEM HAS BEEN COMPLETED. WHEN INSTALLING CONDUCTORS, THE CONTRACTOR SHALL USE WIRE–PULLING COMPOUND WHEN INSTALLING ALL WIRING AND SHALL EXERCISE DUE CARE TO PREVENT DAMAGE TO CONDUCTORS OR INSULATION AND REPLACE ALL DAMAGED CABLE. TYPE THWN WIRING WITH THE OUTER NYLON JACKET DAMAGED WILL NOT BE ACCEPTED.

B. NO NEUTRAL WIRE OR GROUND WIRE SHALL BE TRIMMED OR SPLIT TO FIT SMALLER SIZED LUGS. IF OVERSIZED LUGS ARE INSTALLED ON A NEUTRAL OR GROUND BUSS TO ACCOMMODATE THE LARGER WIRE SIZES, WIRE SHALL BE ROUTED INTO THESE LUGS USING THE PROPER BENDING RADIUS AND TERMINATION METHODS.

C. ALL WIRING SHALL BE TERMINATED ON MAIN BREAKER LUGS, BRANCH BREAKER LUGS, SWITCH LUGS, NEUTRAL BAR/BUSS, OR GROUND BAR/BUSS. NO NEW CONDUCTOR SPLICES SHALL BE MADE IN AUTOMATIC TRANSFER SWITCHES, GENERATORS, CIRCUIT BREAKER ENCLOSURES, LOAD CENTERS, OR OTHER ELECTRICAL ENCLOSURES UNLESS SPECIFICALLY ALLOWED ON THE DRAWINGS.

3.4 IDENTIFICATION AND MARKINGS:

A. ON THE NEW AUTOMATIC TRANSFER SWITCHES, NEW LOAD CENTERS, EXISTING LOAD CENTERS, AND EXISTING CIRCUIT BREAKER ENCLOSURES INSTALL AN ENGRAVED, PLASTIC NAMEPLATE ON THE FRONT DOOR OF THE ENCLOSURE THAT STATES THE NAME, PHASE AND VOLTAGE OF THE EQUIPMENT. THE NAMEPLATES SHALL BE BLACK WITH WHITE LETTERS WITH A MINIMUM LETTER HEIGHT OF 1/4". THE NAMEPLATES SHALL BE INSTALLED ON THE DOOR WITH CORROSION RESISTANT RIVETS OR SCREWS THAT ARE SHORT ENOUGH TO PREVENT ANY CONTACT WITH LIVE PARTS INSIDE THE ENCLOSURE. FOR EXAMPLE EQUIPMENT NAMES ON THE NAMEPLATES SHOULD BE "LC" FOR LOAD CENTERS.

B. ON THE EXISTING OR NEW LOAD CENTERS AT THE ELECTRIC SERVICE POINTS: INSTALL AN ENGRAVED, PLASTIC NAMEPLATE ON THE INTERIOR COVER OF THE ENCLOSURE NEXT TO EACH LOAD BREAKER THAT STATES WHAT LOAD IS CONTROLLED BY THE BREAKER. THE NAMEPLATES SHALL BE BLACK WITH WHITE LETTERS WITH A MINIMUM LETTER HEIGHT OF 1/4". THE NAMEPLATES SHALL BE INSTALLED ON THE INTERIOR COVER WITH CORROSION RESISTANT RIVETS OR SCREWS THAT ARE SHORT ENOUGH TO PREVENT ANY CONTACT WITH LIVE PARTS INSIDE THE ENCLOSURE.

C. EACH NEW CONDUCTOR GROUP IN LOAD CENTERS, CIRCUIT BREAKER ENCLOSURES, AUTOMATIC TRANSFER SWITCHES, GENERATOR ELECTRICAL ENCLOSURE, OR OTHER ENCLOSURES SHALL HAVE A PERMANENT, LEGIBLE WIRE MARKING LABEL WITH SUITABLE NUMBERS TO SHOW THE DESTINATION OF THE WIRING. THIS DESIGNATION SHALL CALL OUT THE DESTINATION OF THE NEW WIRING SUCH AS "TO ATS–1" OR "TO METER" OR "TO GENERATOR" OR "TO LOAD CENTER".

3.5 GROUND SYSTEM TESTS:

ALL ELECTRICAL, OPERATIONAL, AND GROUND SYSTEM TESTS SHALL BE WITNESSED BY TPWD CONSTRUCTION PERSONNEL.

A. EACH NEW GROUND ELECTRODE WILL BE TESTED BY A TPWD ELECTRICAL INSPECTOR AFTER INSTALLATION USING A GROUND ROD RESISTANCE TESTER EQUAL TO AEMC MODEL #6416 OR USING A FALL–OF–POTENTIAL GROUND RESISTANCE TESTER. THE MAXIMUM RESISTANCE FOR EACH GROUND ELECTRODE SYSTEM SHALL BE LESS THAN 25 OHMS. AFTER THESE GROUND ELECTRODE RESISTANCE TESTS, IF A GROUND ELECTRODE OR COMBINATION OF GROUND ELECTRODES HAS A RESISTANCE HIGHER THAN 25 OHMS, THE CONTRACTOR SHALL ADD A SUPPLEMENTAL GROUNDING TO THE GROUND SYSTEM TO LOWER THIS RESISTANCE BY INSTALLING AND INTERCONNECTING ADDITIONAL GROUND ELECTRODES. THE ADDITIONAL ELECTRODES SHALL BE INSTALLED WITH A MINIMUM OF 6' AWAY FROM EACH ELECTRODE IN AT TRIAD CONFIGURATION AND CONNECTED USING A BARE, #6 AWG, COPPER WIRE, EMBED IN COMPACTED BACKFILL SOIL. THE CONTRACTOR SHALL ACCOUNT FOR A MINIMUM OF THREE GROUND ELECTRODES THE PRIMARY ELECTRODE AND TWO SUPPLEMENTAL GROUND ELECTRODES IN THEIR BID, AFTER THE THIRD GROUND ELECTRODE IS INSTALLED RETEST FOR DOCUMENTATION IF THE RESISTANCE REMAINS HIGHER THAN 25 OHMS, CONTACT THE ENGINEER TO VERIFY IF ANY ADDITIONAL ACTION IS REQUIRED. ALL READINGS SHALL BE DOCUMENTED AND SUBMITTED TO THE ENGINEER FOR REVIEW.

B. AFTER CORRECTIVE MEASURES ARE COMPLETE FOR A GROUND SYSTEM, THE GROUND SYSTEM INSTALLATION SHALL BE RE–TESTED BY THE TPWD ELECTRICAL INSPECTOR WITH A GROUND ELECTRODE TESTER TO VERIFY THE RESISTANCE OF THE SYSTEM. GROUND ELECTRODE RESISTANCE TEST RESULTS WILL BE DOCUMENTED BY THE TPWD ELECTRICAL INSPECTOR AS PART OF ONE OF THE INSPECTION REPORTS FOR THE PROJECT. THESE TEST RESULTS SHALL INCLUDE GROUND SYSTEM RESISTANCE VALUES AND THE WEATHER AND SOIL CONDITIONS PRESENT DURING THE TESTS.

C. THE CONTRACTOR SHALL ALSO PERFORM VOLTAGE TESTS AFTER ALL ELECTRICAL EQUIPMENT HAS BEEN CONNECTED AND READY TO USE TO ASSURE THAT THE PROPER VOLTAGE IS AVAILABLE AT EACH EXISTING OR NEW LOAD CENTER, BREAKER, AUTOMATIC TRANSFER SWITCH, GENERATOR, OR OTHER ELECTRICAL ITEM.

3.6 ALL ELECTRICAL, OPERATIONAL, AND CONDUCTOR INSULATION TEST SHALL BE WITNESSED BY TPWD CONSTRUCTION PERSONNEL.

A. TEST INSTALLATION AFTER NEW WIRING IS COMPLETED AND WHEN EQUIPMENT IS CONNECTED AND READY FOR USE.

B. RESISTANCE BETWEEN CONDUCTORS AND BETWEEN EACH CONDUCTOR AND GROUND SHALL BE TESTED FOR ALL SERVICE ENTRANCE CONDUCTORS AND BRANCH FEEDER CONDUCTORS FOR ALL CONDUCTORS #6 AND LARGER. CONDUCTORS SHALL PASS A 500 VOLT MEGGER TEST PRIOR TO PLACING IN SERVICE WITH A MINIMUM ACCEPTABLE INSULATION RESISTANCE EQUAL TO OR GREATER THAN 100 MEG OHMS.

DIVISION 27 TELECOMMUNICATION SPECIFICATIONS

PART 1 – GENERAL

1.1 CODES, STANDARDS AND REFERENCES

A. TIA / EIA–455 SERIES (FIBER OPTIC TEST STANDARDS)
B. TIA/EIA–568–B SERIES (CABLING STANDARD)
C. TIA/EIA–569–A SERIES (PATHWAYS AND SPACES STANDARD)
D. TIA/EIA–606 SERIES (ADMINISTRATION STANDARD)
E. ANSI/TIA/EIA–607 SERIES (GROUNDING AND BONDING)
F. ANSI/TIA/EIA–758 (CUSTOMER OWNED OUTSIDE PLANT (OSP)
G. TIA/EIA BULLETIN TSB67
H. LOCAL AREA NETWORK ETHERNET STANDARD, IEEE 802.3 SERIES
I. THE BICSI TELECOMMUNICATIONS DISTRIBUTION METHODS MANUAL

1.2 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS: INSTALLATION CONTRACTORS MUST BE MANUFACTURER TRAINED AND CERTIFIED RESELLERS. THE INSTALLATION CONTRACTOR MUST BE ENGAGED IN THE NORMAL BUSINESS OF INSTALLING TELECOMMUNICATIONS CABLING SYSTEMS AND LICENSED TO OPERATE IN THE STATE OF TEXAS. ALL INSTALLATION TECHNICIANS MUST BE FAMILIAR WITH THE CODES, STANDARDS AND PROCEDURES REQUIRED BY THIS DOCUMENT AND MUST BE TRAINED AND CERTIFIED FOR INSTALLATIONS. THE INSTALLING CONTRACTOR MUST BE A PANDUIT–CERTIFIED INSTALLATION CONTRACTOR.

B. STRUCTURED CABLING SYSTEM WARRANTY AND CERTIFICATION: TPWD REQUIRES A WARRANTY ON THE INSTALLATION OF STRUCTURED CABLING SYSTEM OF AT LEAST ONE YEAR FROM BUILDING ACCEPTANCE. IN ADDITION, TPWD REQUIRES THAT 100% OF THE CABLES AND TERMINATION EQUIPMENT INSTALLED BE TESTED AND CERTIFIED AT THE DESIGNED AND INTENDED PERFORMANCE LEVEL AND THAT SUCH TEST RESULTS BE DELIVERED TO TPWD CONSTRUCTION MANAGER / INSPECTOR PRIOR TO ACCEPTANCE OF THE WORK PERFORMED.

C. CABLE TESTING AND CERTIFICATION: COMPLETE END TO END TEST RESULTS MUST BE SUBMITTED FOR REVIEW AS PART OF THE INSTALLATION INSPECTION. THESE TEST RESULTS MUST BE THE ACTUAL NATIVE MACHINE TEST RESULTS DOWNLOADED FROM THE TEST SET, ONTO CD OR FLASHDRIVE, AND ALSO PROVIDED IN PAPER FORM. TEST RESULTS MUST CONTAIN THE NAMES AND SIGNATURES OF THE TECHNICIANS PERFORMING THE TESTS AND A PASS OR FAIL RATING.

D. ALL SPICES ARE PROHIBITED UNLESS TERMINATION IS REQUIRED AT THE BACKBOARD OR FACEPLATE.

PART 2 – PRODUCTS AND EXECUTION

2.1 UNDERGROUND CONDUIT

A. ALL CONDUIT SHALL BE SCH 80 RIGID NONMETALLIC CONDUIT, PVC AND MUST MEET THE REQUIREMENTS OF NEMA TC 6. ALL CONDUIT SECTIONS SHALL BE GLUED WITH PVC PIPD GLUE TO FORM A WATERTIGHT JOINT.
B. ALL CONDUIT SHALL BE INSTALLED WITH A SLIGHT DRAIN SLOPE (.125" / FT) AWAY FROM BUILDINGS TO PREVENT THE ACCUMULATION OF WATER IN THE CONDUIT OR INGRESS TO THE BUILDINGS.
C. ANSI/TIA/EIA569–A BEND RADIUS REQUIREMENTS SHALL BE USED FOR ALL TELECOMMUNICATIONS CONDUIT. THE BEND RADIUS OF THE SWEEPS MUST BE A MINIMUM OF 10 TIMES THE INTERNAL CONDUIT DIAMETER. BENDING CONDUIT IN THE FIELD USING MANUAL OR MECHANICAL METHODS IS NOT ACCEPTABLE. STANDARD ELECTRICAL ELBOWS SHALL NOT BE USED.
D. ALL CONDUIT SHALL BE PLUGGED WITH WATERTIGHT PLUGS AT BOTH ENDS TO PREVENT THE INTRUSION OF WATER, GASSES AND RODENTS THROUGHOUT THE CONSTRUCTION PROJECT.
E. ALL CONDUITS SHALL HAVE ¼" POLYPROPYLENE PULL ROPES INSTALLED. THE PULL ROPES MUST BE RE–PULLED EACH TIME AN ADDITIONAL CABLE IS INSTALLED.
F. ALL CONDUITS MUST BE TESTED WITH A MANDREL TO PROVE COMPLIANCE WITH THE BEND RADIUS REQUIREMENTS THROUGHOUT THE CONDUIT RUN. WITHIN 5 DAYS OF RELEASING THE CONDUIT FOR THE INSTALLATION OF CABLE, THE CONDUIT INSTALLATION CONTRACTOR SHALL PROVE ALL CONDUITS TO BE CLEAN AND DRY.

2.2 FIBER OPTIC CABLING

A. WHERE THE TOTAL CABLE DISTANCE WILL NOT EXCEED 6,561 FEET, 50/125 MICRON GRADED INDEX MULTIMODE FIBER–OPTIC CABLE WILL BE USED.
B. FIBER–OPTIC CABLES SHALL HAVE A MINIMUM 20 FOOT SERVICE LOOP AT THE TERMINATING ENDS AND ALL APPROVED SPLICE POINTS.
C. ALL STRANDS OF FIBER–OPTIC CABLE MUST BE TERMINATED IN A PATCH PANEL WITH ST TYPE CONNECTORS AND TESTED PER 1.1A.

2.3 HORIZONTAL DISTRIBUTION CABLING

A. HORIZONTAL DISTRIBUTION CABLING SHALL BE CAT6A, PLENUM RATED.
B. HORIZONTAL DISTRIBUTION CABLES SHALL BE INSTALLED WITH A SERVICE LOOP AT THE TELECOMMUNICATIONS OUTLET END OF THE CABLE. THE SERVICE LOOP SHALL HAVE AT LEAST 6.5 FEET OF SLACK CABLE. THE SERVICE LOOP SHALL BE LOCATED IN THE MOST EFFICIENT LOCATION FOR FUTURE SERVICE.
C. THE PATCH PANEL WILL HAVE A 110 TYPE PUNCH DOWN ON THE REAR OF THE PANEL AND THE JACKS WILL BE PRE–WIRED TO THE PUNCH DOWN USING THE EIA/TIA 568–B CONFIGURATION STANDARD.
D. ALL HORIZONTAL DISTRIBUTION CABLES TO BE TERMINATED TO AN RJ45 JACK INSTALLED IN TELECOMMUNICATIONS OUTLETS USING THE EIA/TIA 568–B CONFIGURATION STANDARD.

2.4 LABELING

A. EACH PATCH PANEL IN A RACK WILL BE LABELED SEQUENTIALLY WITH A LETTER OF THE ALPHABET, STARTING AT A.
B. EACH PORT IN A PATCH PANEL SHALL BE LABELED SEQUENTIALLY FROM 1, STARTING WITH THE TOP AND LEFT MOST PORT. IF LABELS ARE NOT ALREADY PART OF THE PATCH PANEL, LABELS SHALL BE AFFIXED ABOVE EACH PORT.
C. CABLES SHALL BE LABELED AT EACH END, CLEARLY MARKING THE CONNECTION THE CABLE ESTABLISHES.
D. LABELS APPLIED DIRECTLY TO A CABLE SHALL HAVE A CLEAR VINYL WRAPPING APPLIED OVER THE LABEL AND AROUND THE CABLE TO PERMANENTLY AFFIX THE LABEL.
E. WHERE POSSIBLE, LABELS SHALL BE AFFIXED ABOVE A JACK IN A PATCH PANEL. WHERE IT IS NOT POSSIBLE TO DO SO, PRE–LABELED NUMBERED PATCH PANELS MUST BE USED AND A CROSS–REFERENCE MAP MUST BE PROVIDED SHOWING WHICH CABLES ARE CONNECTED TO WHICH JACKS IN A PATCH PANEL.
F. LABELS SHALL ALWAYS BE ATTACHED TO THE FACEPLATES ON TELECOMMUNICATIONS OUTLETS IN SUCH A FASHION AS TO REDUCE THE CHANCES OF THE LABEL BEING SEPARATED FROM THE FACEPLATE.
G. ALL LABELS SHALL BE MACHINE PRINTED.
H. LABELS FOR TELLECOMMUNICATIONS CABLES SHALL USE THE FOLLOWING FORM: Tcc–pjj WHERE cc IS THE ORIGINATING TELECOMMUNICATIONS CLOSET NUMBER, p IS THE PATCH PANEL IDENTIFIER, AND jj IS THE JACK NUMBER IN THE PATCH PANEL (INCLUDING LEADING ZEROES IF NECESSARY)

DIVISION 31 EARTHWORK SPECIFICATIONS

SECTION 31 20 00 – EARTH MOVING

1.1 HISTORICAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES:

A. CONTRACTOR MAY ENCOUNTER HISTORICAL, ARCHEOLOGICAL, OR CULTURAL RESOURCES WITHIN THE WORK AREA.

B. RESOURCES INCLUDE BUT NOT LIMITED TO ANY HUMAN SKELETAL REMAINS OR BURIAL, ARTIFACTS, SHELL, MIDDEN, BONE, CHARCOAL, OR OTHER DEPOSITS, PAVING, WALL OR OTHER CONSTRUCTED FEATURE AND ANY INDICATION OF AGRICULTURAL OR OTHER HUMAN ACTIVITIES.

C. TPWD STAFF WILL CLOSELY MONITOR ALL TRENCHING PRIOR AND DURING EXCAVATION. CONTRACTOR SHALL INFORM TPWD PERSONNEL OF HIS SCHEDULE AT LEAST TWO WEEKS IN ADVANCE, PRIOR TO INITIATION OF THE WORK TO ALLOW FOR SCHEDULING OF PERSONNEL TO OVERSEE THE WORK. SEE SHEET E1.1 GENERAL NOTE 6.

D. NO WORK SHALL COMMENCE UNTIL TPWD STAFF IS ON SITE TO OBSERVE THE EXCAVATION WORK. CONTRACTOR SHALL ADHERE TO ANY INSTRUCTIONS OR DIRECTIONS AS GIVEN BY TPWD REPRESENTATIVE.

E. IF DURING THE COURSE OF CONSTRUCTIONS ACTIVITIES, ANY RESOURCES ARE DISCOVERED, ALL ACTIVITIES THAT MAY DAMAGE OR ALTER SUCH RESOURCES SHALL BE TEMPORARILY SUSPENDED UNTIL OTHERWISE DIRECTED BY THE OWNER.

1.2 MATERIAL SUBMITTALS:

A. SUBMIT UNDER PROVISIONS OF "TERMS AND CONDITIONS" OF THE CONTRACT.

B. MARK ALL SUBMITTAL LITERATURE TO INDICATE THE PRECISE SELECTION OF MATERIALS, DIMENSIONS AND EQUIPMENT SUBMITTED. NOTE THAT IS THE SPECIFIC MODEL OR MATERIAL IS NOT INDICATED IN THE SUBMITTAL, AND THERE IS MORE THAN ONE CHOICE POSSIBLE, THE SUBMITTAL MAY BE REJECTED AND A RESUBMITTAL WILL BE REQUIRED.

C. PROPOSED SUBMITTAL LIST SHALL INCLUDED ALL EQUIPMENT WITH MANUFACTURER OR MODEL NUMBERS CALLED OUT IN THE DRAWINGS. WHERE THE PLANS AND SPECIFICATIONS CALL OUT A MANUFACTURER OR MODEL NUMBER, CONTRACTOR SHALL PROVIDE AND SUBMIT THE EXACT MANUFACTURER AND MODEL NUMBER OR EQUAL PRODUCT PER THE TERMS AND CONDITIONS.

CONTRACTOR'S PROJECT SUBMITTAL LIST:

CONTRACTOR'S LIST OF MATERIALS AND PRODUCTS REQUIRING A SUBMITTAL FOR REVIEW PRIOR TO INSTALLATION	MANUFACTURER'S PRODUCT INFO	INSTALLATION INSTRUCTIONS	MANUFACTURER MODEL NUMBER AND DESCRIPTION	LEGIBLE TYPE AND STYLE OF LAMP	LEGIBLE LENGTH AND QUANTITY OF LAMPS PER FIXTURE	METHOD DESCRIPTION	PROOF OF SKETCH	COLOR SWATCHES	FLOOR PLAN, LAYOUT DOORS AND WINDOWS	ELECTRICAL PLAN SIZE AND CHARACTERISTICS	EXTERIOR AND INTERIOR FINISHES	BUILDING CONSTRUCTION DESCRIPTION	PROVIDE BEFORE AND AFTER FLOW HOOD READINGS FOR REVIEW
LOAD CENTERS AND BREAKERS	YES		YES										
ELECTRICAL SAFETY DISCONNECTS	YES		YES										
GROUND RODS AND GROUNDING PLATES	YES		YES										
GROUND ROD TERMINATION CONNECTIONS	YES		YES										
SURGE PROTECTION DEVICES	YES	YES	YES										
CONDUCTORS, CABLES AND CONDUIT	YES		YES										
AUXILIARY GUTTERS	YES		YES										
LED RETROFIT LAMPS AND LIGHTS	YES	YES	YES	YES									
SKETCH FOR LIGHTS AND LAMPS				YES	YES	YES	YES						
MECHANICAL EXHAUST FANS	YES		YES										
IT WALL RACK AND BACKBOARD	YES			YES	YES								
ADOBE SECURE AND SUPPORT FASTENERS METHOD AND PLAN	YES	YES		YES	YES	YES	YES						
CONDUIT PAINT	YES							YES					
PHOTO AND DOCUMENTATION PLAN		YES			YES	YES	YES						
PATCH PANEL	YES			YES	YES								
HORIZONTAL DISTRIBUTION CABLING	YES			YES	YES								
FACE PLATES AND MODULES	YES			YES	YES								
CABLE TEST RESULTS AND TESTING EQUIPMENT WITH CALIBRATION CERTIFICATIONS	YES			YES	YES		YES						
SURGE PROTECTORS	YES	YES		YES	YES								
CONDUIT BEDDING MATERIAL	YES												
EXHAUST FANS	YES		YES										
EXAUST GRILLES	YES		YES										YES
TDLR LICENSES FOR MECHANICAL AND ELECTRICAL	YES		YES										
DUCT, DUCT INSULATION AND MASTIC	YES		YES										
TILE , MASTIC ADHESIVE AND GROUT	YES		YES										
TEMPORARY OFFICE BUILDING	YES	YES	YES						YES	YES	YES	YES	

YES ––MEANS YOU MUST SUBMIT THIS

WARRANTY (SUBMITTED AT CLOSE OUT.)
A. CONTRACTOR'S ONE YEAR LABOR AND MATERIAL WARRANTY CERTIFICATE WITH INSTRUCTIONS AND CONTACT INFORMATION OR WARRANTY WORK.
B. MANUFACTURER'S EXTENDED WARRANTIES.

TEXAS PARKS & WILDLIFE

STATE OF TEXAS
CARL OWEN NIX
93674
REGISTERED PROFESSIONAL ENGINEER
4/29/2021

FORT LEATON STATE HISTORIC SITE
ELECTRICAL REPAIRS AND UPDATES
PROJECT: MR10415

DATE: 04–29–2021
DESIGNED BY: CN
DRAWN BY: CN
REVIEWED BY: CN
REVISED:
REVISED:
REVISED:

CONSTRUCTION DRAWINGS

SHEET TITLE
ELECTRICAL AND TECHNOLOGY PROJECT SPECIFICATIONS

SHEET NUMBER
TE5.1

EXHAUST FAN SCHEDULE

UNIT	MODEL#	MNFCTR. NAME	EXHST. FAN DESCRIPTION	DESIGN EXHAUST (CFM)	EXHAUST CFM/@ IN. W.G. ΔP	MOTOR RPM	INPUT HP (AMPS)	SONES	VOLTS/ PHASE/HZ	DRIVE	INSTALLATION DESCRIPTION	ROOF CURB (WALLFLANGE) SIZE	FAN WEIGHT POUNDS	DUCT/DAMPER OUTLET SIZE WXH (IN.)	COMMENTS
EF-1	L300MG	BROAN	CEILING	280	292/0.5	885	(2.6)	3.9	120/1/60	DIRECT	CEILING	N/A	24	8ø"	PROVIDE A 14X14 METAL GRILLE FOR A DROP CEILING
EF-2	L300MG	BROAN	CEILING	280	292/0.5	885	(2.6)	3.9	120/1/60	DIRECT	CEILING	N/A	24	8ø"	PROVIDE A 14X14 METAL GRILLE FOR A DROP CEILING

REMARKS:

1. EF-1 & F-2 INTERLOCK EXHAUST FAN WITH THE RESTROOM WALL FLUSH MOUNTED TOGGLE ON/OFF LIGHT SWITCH (SEE ELECTRICAL).
2. SUPPORT THE EXHAUST FANS AND INSTALL TO HANGERS FROM STEEL JOIST PER THE MANUFACTURER RECOMMENDATIONS.
3. CONVERT THE EXHAUST FAN TO CREATE A VERTICAL DISCHARGE EXHAUST FAN WITH A 8" ROUND DISCHARGE OUTLET, TRANSITION THE EXHAUST DUCTWORK TO CONNECT TO THE EXISTING EXHAUST FAN DUCTWORK.

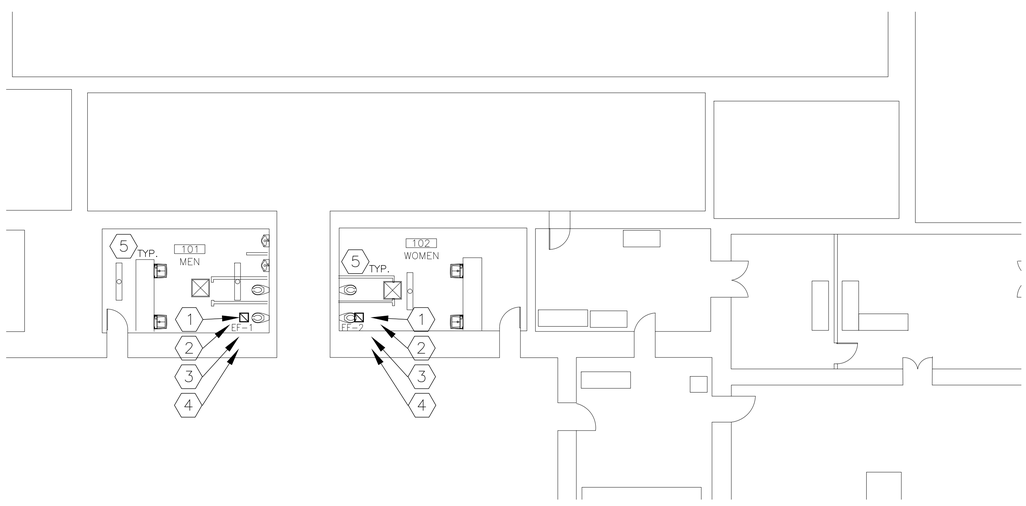
THIS SHEET ONLY KEYED NOTES "⬡"

1. DEMOLISH THE CEILING MOUNTED EXHAUST FAN AND EXISTING EXHAUST FAN DUCTWORK LEADING UP TO AND JUST BELOW THE EXISTING ROOF PENETRATION. PREPARE THE EXISTING DUCTWORK JUST BELOW THE ROOF PENETRATION FOR REUSE. THE EXISTING ROOF CAP DUCTWORK JUST BELOW AND ABOVE THE ROOF PENETRATION SHALL REMAIN UNDISTURBED AND IN SERVICE. MOUNT THE NEW EXHAUST FAN CENTERED ON THE ACOUSTICAL CEILING TILE, COORDINATE WITH THE EXISTING CONDITIONS TO INDEPENDENTLY SUPPORT THE EXHAUST FAN FROM THE STEEL JOIST. THE EXHAUST FAN SHALL BE COORDINATED WITH BUILDING STRUCTURE, CEILING AND SUPPORTED AT ALL FOUR CORNERS.
2. PROVIDE MEASUREMENTS WITH A FAN HOOD TO VERIFY DESIGN AIRFLOW RATE IS ACHIEVED, RESULTS TO THE ENGINEER OF RECORD FOR REVIEW. ALL TEST SHALL BE WITNESSED BY THE DESIGNATED OWNER REPRESENTATIVE.
3. CONVERT THE EXHAUST FAN TO CREATE A 8" ROUND VERTICAL DISCHARGE OUT THE TOP OF THE NEW EXHAUST FAN. EXTEND THE 8ø" SINGLE WALL 26 GAUGE MINIMUM G90 GALVANIZED STEEL ROUND DUCT UP TOWARDS THE THE ROOF PENETRATION. TRANSITION THE 8 INCH ROUND DUCT TO INTERSECT AND CONNECT TO THE EXISTING 10X3 VERTICAL EXHAUST DUCT JUST BELOW THE ROOF PENETRATION. REUSE THE EXISTING DUCTWORK AND MATCH THE SLIPS AND DRIVES REINFORCEMENTS TO ATTACH THE NEW EXTENDED EXHAUST DUCTWORK TO THE EXISTING EXHAUST DUCTWORK. REUSE THE DUCT THAT EXTENDS ABOVE THE ROOF TO DISCHARGE THE EXHAUST AIR THROUGH THE EXISTING ROOF AND EXISTING ROOF CAP. THE PROVIDED EXHAUST FANS SHALL HAVE A BACKDRAFT DAMPER AND BEAR A UL LABEL. DO NOT CREATE A NEW ROOF PENETRATION. PROVIDE NP1 DUCT SEALANT TO SEAL ALL DUCT CONSTRUCTION JOINTS TO PREVENT DUCT LEAKAGE. PROVIDE NEW SUPPORT HANGERS FROM THE STEEL STRUCTURE ABOVE TO INDEPENDENTLY SUPPORT THE EXHAUST FAN.
4. PROVIDE EXTERNAL BLANKET TYPE DUCTWORK INSULATION ON THE NEW AND EXISTING EXHAUST DUCTWORK SEALED WITH WATER BASED MASTIC. SEE GENERAL NOTES.
5. REPLACE ALL DAMAGED CEILING TILES.

APPLIES TO ALL M-SHEETS
GENERAL NOTES

1. NOTE THAT CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC BY THEIR NATURE, AND ARE NOT INTENDED TO SHOW EVERY CONNECTION IN DETAIL OR EVERY PIPE, DUCT OR CONDUIT IN ITS EXACT LOCATION. FEATURES AND COMPONENTS NOT SHOWN ARE SUBJECT TO THE REQUIREMENTS OF STANDARDS REFERENCED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL COORDINATE THE VARIOUS TRADES IN ORDER TO AVOID INTERFERENCE BETWEEN THE VARIOUS SEGMENTS OF THE PROJECT.
2. ALL WORK SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO THE BUILDING LINES UNLESS OTHERWISE NOTED.
3. ALL DUCTWORK DIMENSIONS INDICATED IN PLANS ARE CLEAR UNOBSTRUCTED FREE AREA DIMENSIONS.
4. DUCTWORK INSULATION SHALL BE OF EXTERNAL BLANKET TYPE WITH A FOIL, REINFORCED KRAFT PAPER (FRK) VAPOR BARRIER FACING WITH A INSTALLED R6 VALUE. DUCTWORK INSULATION SHALL BE APPLIED TO ALL EXHAUST DUCT
5. DUCT WORK TRANSITIONS SHALL HAVE MAXIMUM 15° CONVERGENCE, UNLESS NOTED OTHERWISE.
6. CHANGES IN DIRECTION IN ROUND DUCT WORK SHALL BE MADE USING 4-SECTION ADJUSTABLE "90's" OR 3-SECTION ADJUSTABLE "45's".
7. ALL DUCTWORK SHALL BE PROVIDED PER SMACNA 1" W.G. REQUIREMENTS WITH THE ADDITION OF MINIMAL ALLOWABLE THICKNESS OF 26GA. REINFORCE AND SUPPORT ALL DUCTWORK WITH UNISTRUT AND HANGERS PER SMACNA AND MANUFACTURERS RECOMMENDATIONS.
8. SEAL ALL DUCTS WITH SEALANT MANUFACTURE BRAND NAME NP1 OR EQUAL LATEX BASED, WATER SOLUBLE. SOLVENT BASED DUCT SEALANT IS PROHIBITED.
9. SUSPENDED THE EXHAUST FAN WITH RUBBER-IN-SHEAR VIBRATION ISOLATORS.
10. PROVIDE MAINTAIN 36" CLEARANCE BETWEEN EACH EXHAUST FAN AND THE BUILDING STRUCTURE AND ELECTRICAL EQUIPMENT. EQUIPMENT ACCESS PANELS SHALL REMAIN ACCESSIBLE.
11. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION CERTIFYING THE FINAL EXHAUST FAN AIR FLOW WITH A VERTICAL LAMINAR AIR FLOW HOOD WITH A MINIMUM OF THREE READINGS PER FAN.
12. CONTRACTOR SHALL WORK WITH EXISTING CONDITIONS. CONTRACTOR SHALL REPAIR ALL DAMAGE DUE TO DEMOLITION INCLUDING FINISHES, WALL PANELING, FLOOR FINISHES, WALL FINISHES, IRRIGATION, WATER, SEWER, GAS AND ELECTRICAL DEVICES, CONDUIT, WIRING, WATER, VENT AND PIPING, TELECOMMUNICATIONS CABLING, RJ-45 JACKS AND FACEPLATES ELECTRICAL DEVICES AND WIRING. CONTRACTOR SHALL USE CAUTION TO TRY TO AVOID DAMAGE AND PROTECT ALL FINISHES.
13. CONTRACTOR SHALL REPAIR OR REPLACE ALL DAMAGES TO THE SITE AND THE BUILDING DUE TO CONSTRUCTION TO MATCH EXISTING CONDITIONS PRIOR TO ANY WORK PERFORMED. THIS INCLUDES BUT NOT LIMITED TO REPAINTING WALL COVERINGS, SHEETROCK REPAIR, FLOOR COVERINGS, CEILINGS, CEILING TILES AND EQUIPMENT.

SEE E1.1 FOR GENERAL NOTES



NORTH

1 PROPOSED MECHANICAL PARTIAL FLOOR PLAN
SCALE: NOT TO SCALE DIMENSIONS SHOWN ARE APROXIMATIE FIELD VERIFY ALL DIMINENSIONS PRIOR TO BID

TEXAS PARKS & WILDLIFE

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FORT LEATON STATE HISTORIC SITE
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CONSTRUCTION DRAWINGS

DATE: 04-29-2021
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REVIEWED BY: CN
REVISED:
REVISED:
REVISED:

SHEET TITLE
PROPOSED MECHANICAL PLAN & SCHEDULE

SHEET NUMBER
M1